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JERICHO: CITY AND NECROPOLIS

Report for Sixth and Concluding Season, 1936

WITH PLATES XXVIII–XLII

I. General Survey and Special Features

BY JOHN GARSTANG

WITH PLATES XXVIII AND XL, XLI

II. Pottery of the Middle and Late Neolithic Periods

BY IMMANUEL BEN-DOR

WITH PLATES XXIX-XXXIII, XLII

III. Pottery of the Early Bronze Age

BY G. M. FITZGERALD

WITH PLATES XXXIV-XXXIX

I. GENERAL SURVEY AND SPECIAL FEATURES

THE Fifth Report, published in the *Annals*, XXII, pp. 143 ff., described the results of investigations made in the NE. corner of the brick-walled city (Sq. E 7), and told how excavations below the strata of the Early Bronze Age had disclosed further deep levels representing a long occupation of the site in the previous Stone Age.

The interest created by these discoveries attracted the support of several University and Civic Museums, including those of Oxford, Cambridge, Birmingham and Liverpool, in addition to the *Louvre* and the Hunterian Museum of Glasgow, so that a further expedition, to which Sir Charles Marston was again the chief subscriber, was organised to make a specialised investigation of the unknown or little known cultures this revealed. For this purpose the work already done was used as a guide and the excavations were extended over a wider area towards the east, so as to include Sq. E 8, well beyond the brick-walled area, as far indeed as the foot of the mound where it is bounded by the modern roadway. In this way a total superficies of about 2000 square metres was opened, and the lowest neolithic floors uncovered extended over an area of about 1000 metres. The work was done stratigraphically, and the value of the increased information is enhanced by the skilful way in which Mr. Rowe, who acted as field supervisor, disentangled the successive building levels which owing to the unknown factors had partly eluded us in the previous year.

It is now clear that the strata dissected in this area represent seventeen main building levels, *i.e.* epochs in which the houses and other features of the site were rebuilt after destruction, and the general level of occupation raised accordingly.[1] Of these seventeen levels, seven (Layers I-VII) pertain to the Early Bronze Age and ten (Layers VIII-XVII) to the underlying neolithic strata. The maximum depths representing these main cultures (as ascertained last year : *Annals*, Pl. XXVI) were respectively 5 metres and 8 metres ; and at the very bottom was a further deposit about 2 metres thick of a precedent microlithic culture resting upon sterile marl and rock. No time-scale can be affixed as yet to these Stone Age levels, but a valuable fixed point was established this season by the discovery of two late pre-dynastic Egyptian types, a slate palette and a mace head (Pl. XXXVI, nos. 25 and 26) at the bottom of Layer VII. The rise of the ‘ Bronze Age ’ in Canaan was thus contemporary with that of Dynastic Egypt ; a parallel epoch seems to be marked on other sites that have been excavated in the north and east, in Syria and Mesopotamia. It should be added that the term ‘ Bronze Age,’ though retained as being familiar, is technically a misnomer as far as concerns Jericho, where copper alone is found throughout the E.B.A., and that in sparse quantities. Flint was still the common material for knives and tools.

It is also to be explained that after much deliberation and consultation we no longer employ the term ‘ chalcolithic ’ to connote the uppermost level of our Stone Age culture (Layer VIII). This decision is based partly on the total absence of worked metal in the culture-deposits, and partly because the flint industry as a whole illustrates a continuous sequence. The developed industry of Level VIII (our Late Neolithic), which Miss Crowfoot with keen discernment has distinguished from its forerunners, is now called Jerichoan. The flint industry of our Early and Middle Neolithic phases seems to be homogeneous ; and notwithstanding its resemblance at certain points to the culture called Tahunian II the differences are marked, and it would probably be very convenient for all to know it as Jerichoan I, and our Late Neolithic culture as Jerichoan II. We do not, however, employ this suggested terminology in this Report, but speak of Early, Middle and Late Neolithic.

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[1] Cf. the Diagrammatic Section on Pl. XXVIII.

The Early Neolithic levels (Layers X-XVII) contained no pottery; they represent a purely stone-age culture, continuous in itself as already stated, and are distinguished by successive building stages superposed. The flint implements will be described by Miss Crowfoot in Section V. Other features of culture included stone mortars and pounders, burnishing stones, some of which were very smooth and bore traces of brown or red pigment, plastic mud figurines of animals, bone points, sea shells, fossils, Ecroliths, stone rings, pieces of coloured stone and pumice, a few beads and perforated shells used as beads.

The special feature which characterises the whole of this neolithic civilisation from start to finish is one of architectural construction. House walls and floors were faced with a smooth lime surface, which was painted in bold splodges of dull red or brown and burnished. The floors were usually laid on a bed of limestone chippings about 4 or 5 cms. deep, the finer pieces towards the top. In some cases this lime-bed was cohesive, but often as not it was found to be disintegrated or non-adherent. In the earlier levels (below Layer XIII), which were not re-examined this year, the surface-coating was thinner, and the base, like the material of the walls, was of mud. We recall the fact that a few bricks forming the bottom of a wall were traced last year in the bottommost layer; and this year some plano-convex bricks, made especially for columns, with the flat surface grooved for bonding, were found on Level XI.[1] Otherwise all walls seem to have been built of mud and faced in the way described. They were pleasingly straight in themselves, and the angles of rooms were more nearly squared than is usual in ancient oriental houses.

One building of Level XI, partly traced last year and now completely excavated, presents a ground plan which is practically that of a developed *megaron*. A portico on six wooden posts, a wide antechamber and a large inner chamber are its principal features. Unlike the later neolithic

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[1] Note the engaged columns flanking the doorways of the *megaron*-like building, 208-461, Pl. I; and part of a free column at a junction of main house-walls in area 478 of the same Plan.

megara of Thessaly, the Jericho example contains no central hearth, a difference which may be attributed to climate : in its place was found the socket of a post to hold up the roof. This building was reconstructed, it would seem, several times, possibly as many as seven, for its west wall (which alone has been cleared to the bottom) is found to have risen age by age upon the ruins of its predecessors ; and the plan of the building is still reflected in Level X. Inside the building of Layer XI there was found little or nothing of a domestic character ; but outside the entrance, and as far as and beyond the eastern retaining wall of the precincts, there were found numerous plastic clay and mud figurines representing chiefly domesticated animals, among which can plausibly be recognised the cow, goat, sheep and pig, and possibly the dog. Other models suggest a cobra's head, the male organs, small cones, and something like a pillow. In the forecourt were a number of tiny rooms with trap openings, which look like sheep pens (Pl. XL, a). It seems clear that the *megaron*-like building was one of special character, presumably a shrine, while its associations indicate a pastoral cult, possibly that of the Moon god. Incidentally the culture of J.E.N. tells of both agricultural and pastoral life, as well as hunting, while the organisation of the settlement indicates an established social order.

The racial type of this neolithic people is of course unknown ; but the discovery of several interments contributes something towards the solution of this question. Below a re-made floor of Room 480, in Layer XI, were found the graves of two men, one of whom had apparently died a violent death. His neck seemed to have been broken by twisting the head round ; and his body was held down, as it were, by a fairly large stone. The arms also must have been bound in a strained position behind the back. The fissures in the floor seen in the photograph are attributable to a subsequent earthquake of the period of Layer IX.

The Middle Neolithic period, though represented by a single building level (our Layer IX) and sharing the same flint industry and general culture as the lower levels, was distinguished by the invention of pottery making. The making of the plastic figures found two layers below, some more ambitious attempts at plastic work as yet undefined, in area 457 of Layer IX, in addition to the fashioning of plastic statuary and a lime-faced bin (Room 202) in Layer X, as described in *Annals*, XXII, pp. 166-167, had already prepared the way for this momentous development. Culturally the incipient art is divided, within the period represented by

Layer IX, into three stages. In the earliest, pottery makes its timid appearance as a basin scooped in the earth and lined with a coat of marl about 3 or 4 cms. thick. A development saw the borders of the vessels carried up above the floor and sometimes assuming the dimensions of a large bin, the base of which was always below floor-level. The pottery, if such it may be called, was non-coherent : it contained as yet no cohesive grit or chopped straw and but little clay ; nor was it baked, so that when pinched it now falls into fine powder.

To this period none the less belongs one remarkable example (Pl. XL, b). This was shaped somewhat like a beehive, 102 cms. high and 77 cms. wide. Its base was 14 cms. deep and its walls about 4 cms. in thickness. It was found in Room 261 and mostly belonged to Layer IX, but it passed about 20 cms. through the floor or occupation level. It seems to represent a house, though some kind of grain bin would appear more probable. At ground level it had a pavement of stone slabs, and a dummy ' doorway ' (R) blocked by a stone which rolled in a built-up frame. A little higher (L) was a recess with solid floor and walls. At two-thirds of its height the model was crossed horizontally by a ' floor ' supported by a central ' pillar,' and in turn supporting the main roof by a similar feature. On either side of the top floor were small ' windows,' about 6 cms. in diameter, piercing the thickness of the walls. Only half the object was observed, and that only because at the time we were digging a sectional face, and in doing so exposed its outline. Unfortunately this object fell to pieces before measures for its conservation had taken effect, but not before a series of photographs and a measured drawing had secured a record of its unique character.

It is instructive to bear in mind the reconstructed Temple model from Perachora and that from the Argive Heraeum, in which, though the ground plan is apsidal, not round, the features of an upper storey, twin columns and other details invite comparison, and suggest that the Jericho model may represent a neolithic shrine.

In the second phase of the Middle Neolithic period the idea of mixing the earth with chopped straw, the freer use of clay, and a superficial drying, enabled the vessels to be moved and used for carrying ; and with that step the art of making pottery emerged in full. Shapes remained simple (Pl. XXIX) and for some time showed little experimentation, as described in detail by Mr. Ben-Dor in Section II. In the third phase the admixture of flint grit and sand with the clay gave greater cohesion to the pottery, and the vessels are found both decorated with paint and also partly baked. The prevalent style of decoration and details of the forms are illustrated on Pls. XXX-XXXI. The pottery is mostly drab with a decoration in large bands of purple or brown, burnished with a rubbing-stone; but there are also finer wares, sometimes covered with a yellow slip, upon which a linear decoration is carefully applied in red. All the pottery of this period was made exclusively by hand.

The Late Neolithic period, called by us last year 'Chalcolithic,' is represented by our Level VIII, which again is divisible where well preserved into two Layers, VIII and VIIIA. At both extremities of our cutting sections revealed two superposed floors constructed in the style of the preceding periods. Those at the east end, particularly in Rooms 260-261 and 278, were well preserved, and this area provided us with virtually sealed deposits which separated out the examples of flint industry and pottery peculiar to this period. As regards the former, which Miss Crowfoot describes in detail in a later section of this Report, suffice to say that it shows a marked modification when compared with the underlying industry of our Middle and Early Neolithic periods. This is to be seen in the smaller size of the arrowheads, in the presence of flat retouch and coarse denticulation on many of the sickle blades, and in the roughness and relatively small size of the ordinary blades. The modifications suggest some measure of degeneration, but, as Miss Crowfoot shows, they are not wholly to be explained in this way. In this layer a polished celt and giant knife are both exceptional and noteworthy.

As regards the pottery, as will be seen from Pls. XXXII-XXXIII and Mr. Ben-Dor's description, this period sees a full development of the ceramic art. Rotation of the vessels in the making, possibly upon a mat, facilitated better finish and the evolution of form: our Plate XXXII illustrates certain distinctive details of shapes, nos. 21 to 35 inclusive, which may be regarded as standard types, in addition to numerous varieties of form and decoration (cf. Pl. XXXIII). In decoration, while incised motives develop, the use of paint remains elementary, being largely confined to bands around the rim or splodges of red upon the body of the vessels, without any apparent formal design or naturalistic *motif*. This is somewhat surprising since the design of broken and waving grass or cornstalks seen in the incised treatment of one fragment of the period (Pl. XXXII, no. 35) is not only pleasing from a decorative standpoint, but displays the necessary power of drawing and observation for spontaneous development along these lines. It would seem that, as later in the Middle Bronze Age, experiments in the evolution of form claimed most of the potter's interest and time. The burnishing of pottery washed over with paint was, however, well known in both the neolithic pottery phases, an art for which the burnishing of the contemporary house floors and walls had already prepared the way.

Apart, however, from the painted fabrics the common pottery of Jericho shows a marked advance in the last neolithic phase, distinguished in variety of form, texture and technique from the more elementary characteristics of the earliest pottery of our Second Neolithic period.

A comparison of details with the stratified fabrics of Ras Shamra, by courtesy of Dr. Schaeffer, shows that to a surprising degree the common fabrics of both sites passed through a parallel evolution in form and technique. The Jericho Late Neolithic corresponds with Ras Shamra IV, b. The painted fabrics of our Mid-Neolithic b, however, have nothing in common with those of Ras Shamra, where on the other hand the influence and importations of the Tell Halaf styles predominate, and continue in evidence into the Bronze Age, the common pottery none the less following a parallel evolution on both sites. Since Jericho and Ras Shamra are as far removed from one another as possible within the confines of Syria, it may be supposed that the same parallelism will be found on other intervening neolithic sites.

The Early Bronze Age is represented in this year's excavations by Layers III-VII, for the uppermost levels found against the city wall in 1935 were denuded in the new area uncovered; even Layer III, which was contemporary with the foundation of the city wall, was poorly represented. An expert's study of the pottery from these levels appears in Section III of this Report. That from Layer VII, the earliest pottery of this period, particularly invites attention; and the radical change in cultural influence is further illustrated by the presence of a small shrine of Babylonian character, no 420 on Pl. XLI, a. This shows a chamber with a relatively large daïs at one end, and continuous mastaba-seats against the walls, which draw together somewhat towards the east, the entrance being at this end towards the north. Daïs, walls, seats, floor and doorway were all carefully plastered, and the spot seems to have been separated from the other buildings uncovered in this layer (towards the south) by a stouter wall than usual. In the vicinity, and belonging to this stratum, were found several cult objects, notably a small libation altar, and also a remarkable stone object of oval section 68 cms. high, shaped and smoothed (Pl. XLI, b), possibly a prototype of the Mazzebah, and presumably a central symbol of the cult.

The E.B.A. period as a whole seems to be divisible from the standpoint of architecture and pottery (Pls. XXXIV-XXXIX) into three phases, whereof E.B. i, with its round house systems and linear-painted wares, is represented by Layers VII-VI; E.B. ii, with its silos and developed pottery forms, by Layers V-IV; and E.B. iii, with the square house system, city wall and the pottery like that from Tomb A and Kh. Kerak (*Annals*, XXII, p. 155), by Layers III and II. The uppermost level, our Layer I, represented by the highest house floors secondary to the city wall in Rooms 109 and 100 at levels 13·00 m. and 12·60 m. respectively above zero (to be seen in the section on Pl. XXVIII of this Report and also on Pl. XXVI of *Annals*, XXII), seems on reconsideration of all the data to pertain most probably to M.B. i.

The materials of M.B. i from this area are fragmentary and inconclusive (*Annals*, XXII, p. 155), but the presence of this culture-level over the site in general is well attested by the soundings made last year and again this year beneath the Palace store-rooms, as will be seen from the fresh results described by Mr. Ben-Dor in Section VI, below (cf. also *Annals*, XXII, p. 156). This stratum finds its place between the Upper E.B. and the Lower M.B. ii levels. It would appear that the traces of occupation of the site in M.B. i indicate the incoming of a people without resources or aptitude for building. Their short period of settlement is unlike all other epochs in that it is marked by no fresh fortifications or architectural development. It may well represent the vanguard of an Aramaean migration, a conjecture which seems to accord with the northern or Mesopotamian relations of their peculiar ceramic wares.

The Middle Bronze Age is not otherwise represented in this fresh excavation (apart from the links with the established culture found below the Palace area). This period and that of L.B.A. i has been fully illustrated by the excavations of former years in the Palace Area and the Tombs, and published in the *Annals* year by year.

The Late Bronze Age is represented by the contents of one room, the results of a final investigation of the burnt layer representing the destruction of the Bronze Age City, in a spot found undisturbed below the Iron Age debris just to the north of the Palace area, mostly in Sq. H. 6

(*Annals*, XXI, Pl. XIII). In consideration of this fresh evidence, Mr. Rowe, who supervised the excavations in these levels at Beisan and was present during this fresh work at Jericho, joins with the present writer in the following considered statement (already published in *The Times* and *P.E.F.Q.S.*) :—

'The conclusion of six seasons' researches among the ruins of Jericho seems to call for a definite pronouncement about the date of the Bronze Age City's fall, if only to put an end to needless controversy. A review of the evidence leaves no reasonable doubt upon this question.

'Results obtained successively in City and Necropolis have all pointed steadily towards a date about 1400 B.C., during the reign of the Pharaoh Amenophis III, whose scarabs mark the end of a long series of official and private seals. At the same time the tomb deposits, which represent the continuous burial practice of chiefs and people for more than eight hundred years, come abruptly to an end; while within the city the signs of a general catastrophe, accompanied by the falling of its massive walls, are found wherever the Late Bronze Age levels are preserved.

'The sparse deposits of the next five centuries, amounting to one half per cent. of the whole, represent a partial and discontinuous occupation of portions of the site by later settlers. About the age of Solomon a strong block house occupied the old Palace site, but the city walls show no sign of restoration until the general reoccupation of the area in the 2nd Iron Age, known to have been effected in the time of Ahab.

'This season, in response to Sir Charles Marston's desire, we have made a final search in the vicinity of the ancient palace and located a small undisturbed area immediately below the Iron Age debris. As elsewhere at this level, its buildings were found to have been completely burnt out, but among the ashes were found some distinctive deposits, including painted pottery, Cypriote importations, lamps and cooking-pots. The whole group is characteristic of the early part of the Late Bronze Age, while the painted wares in particular find ready parallel in the Thutmosis III and pre-Amenophis III levels at Beisan. On the other hand some of the peculiar art products of the Tell-el-Amarna period, notably small faience ornaments, common on all sites of that period, were entirely wanting, as also were Mycenaean wares.

'Allowing for the possibility that the finding of two separate scarabs of Amenophis III in a royal tomb suggests the appointment of two local dynasts within that reign, with a third in office, we may logically conclude that the fall of Jericho took place between 1400 B.C. and the accession of Akhenaton. No other conclusion will satisfy the archaeological evidence as a whole.'

The Early Iron Age, sparsely represented in our excavations within the city by the so-called 'Hilani' building (*Annals*, XXI, p. 102 f. and Pl. XIII) and its neighbours, was only represented in the tombs by two deposits.[1] The upper group, from Cremation Pit No. 11, seems to fall at the very beginning of the Iron Age, and may represent the interments of a foreign garrison of the Ramesside period (cf. *Annals*, XX, Fig. 11 and p. 36). The other group, numbered 'Kiln 18,' seems somewhat later in date. It represents a deposit of pottery unequally baked and apparently abandoned, found in an otherwise empty grave in the vicinity of Tomb 5, where apparently the firing had been attempted. No other objects have been found (apart possibly from those from the upper layer of Tomb 13, published in *Annals*, XX, p. 16) to fill in the gap between the fall of the city about 1400 B.C. and the full reoccupation early in E.I. ii to which Dr. Watzinger's records bear witness. The evidence of these six years of our excavations indicates, then, only a partial and discontinuous occupation of the site during the five centuries that followed the destruction of the Bronze Age city.

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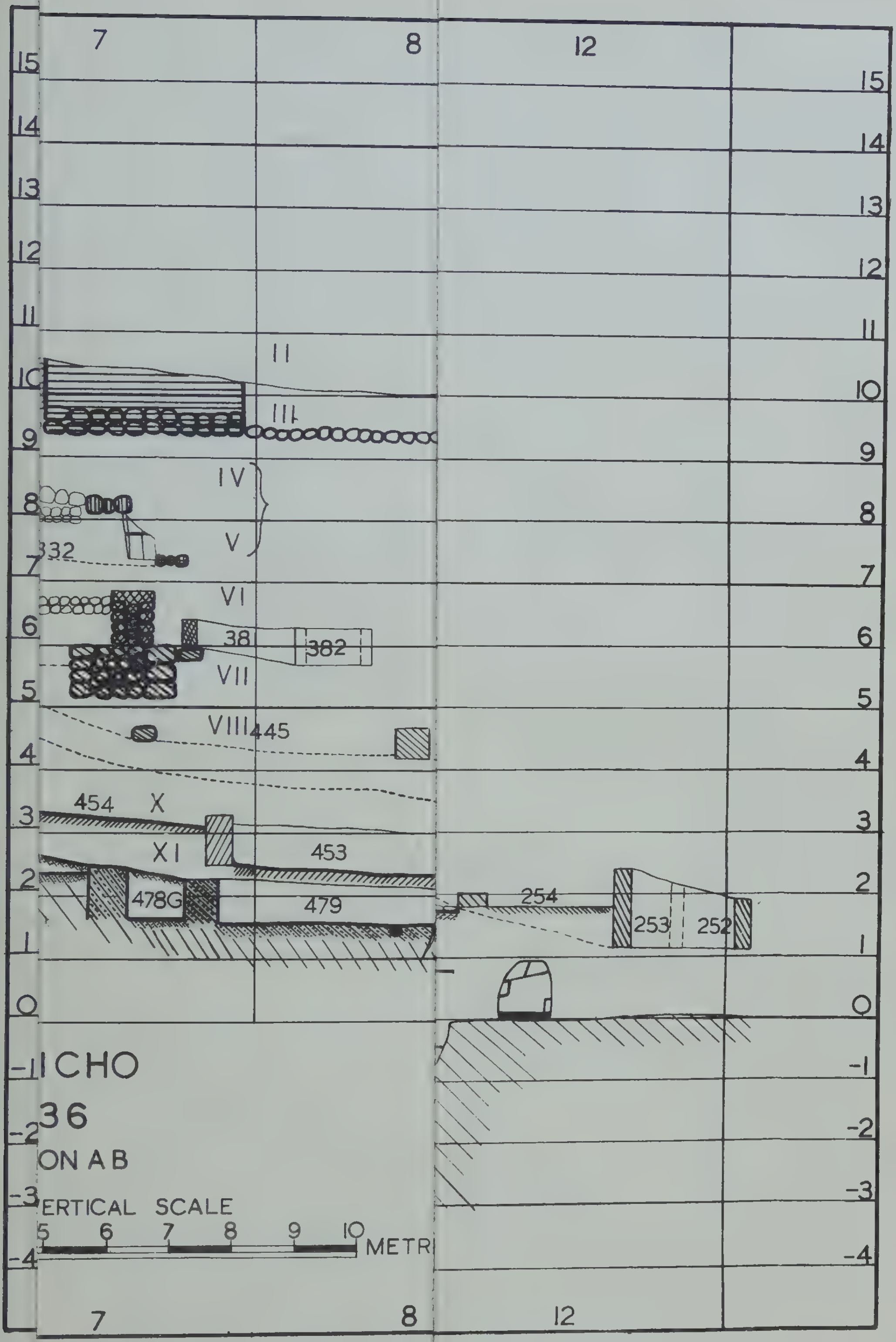
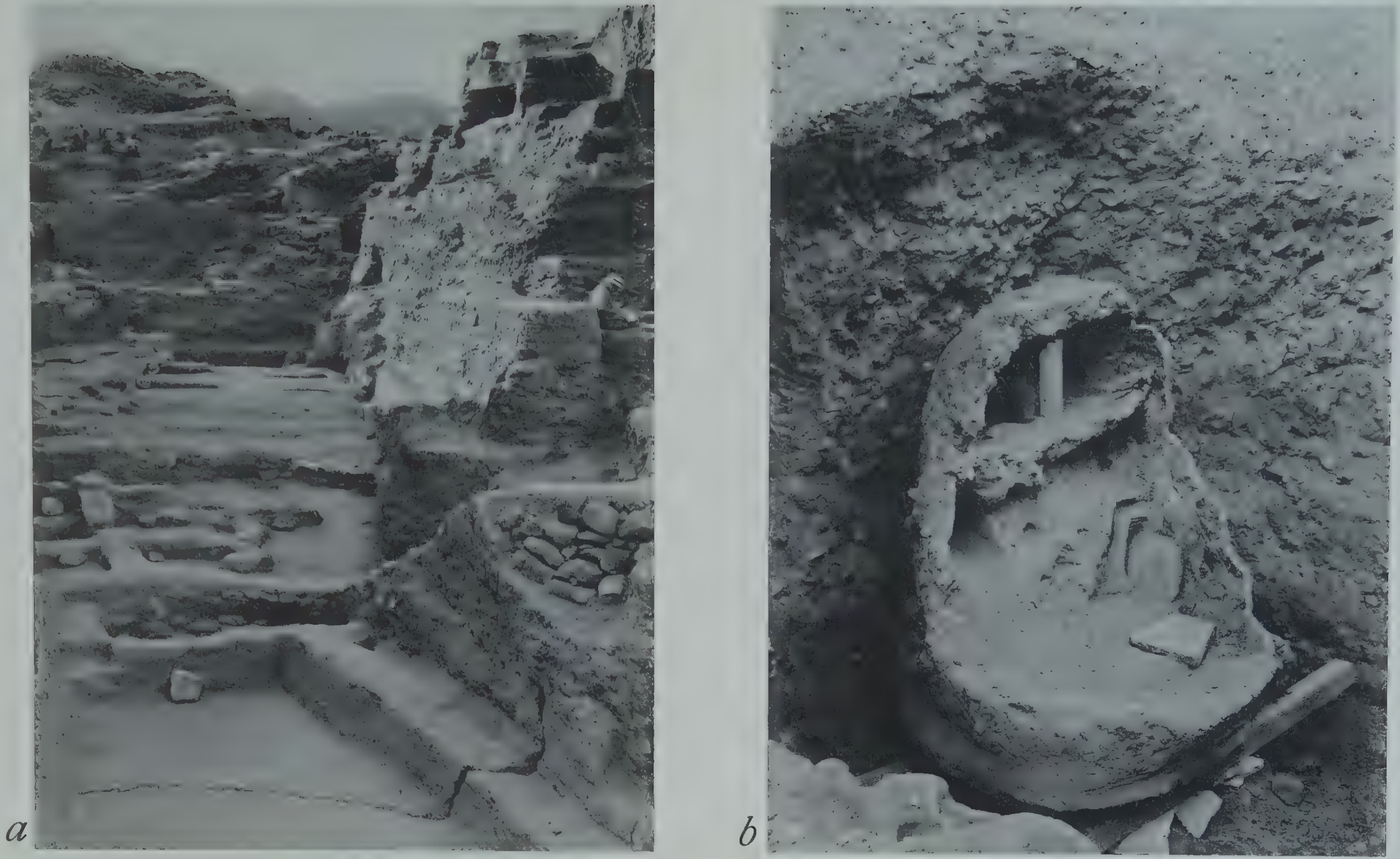
[1] One vase of late Mycenaean style was found outside the confines of the city in our examination of the fosse, 1930-31.

PLATE XXVIII



SECTION AB.

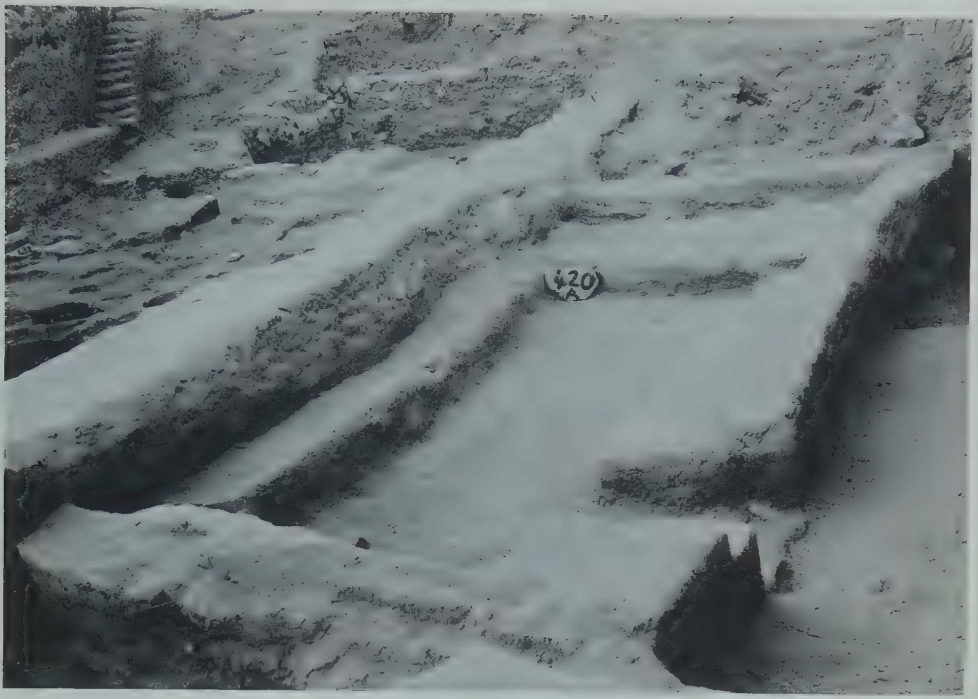


JERICHO, 1936.

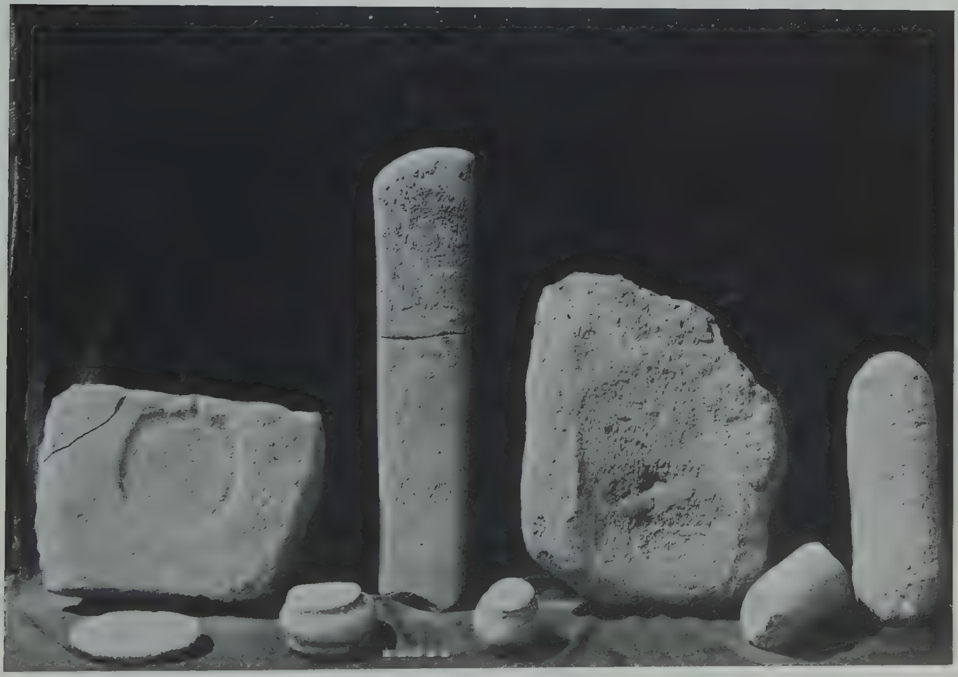
a. GENERAL VIEW OF EXCAVATED AREA, 1935–36, DOWN TO LAYER XI, SHOWING IN BACKGROUND TOP OF LAST BRONZE AGE WALL: ON R. CITY WALL OF E.B. III; AT BOTTOM, BUILDINGS OF LAYER XI.
The Megaron is in background, the sheep-pens in middle, and earthquake fissures in foreground.
In this last room were two Neolithic interments.

b. CLAY MODEL OF A BEEHIVE HOUSE OR SHRINE. PERIOD MIDDLE NEOLITHIC I, LAYER IX.

a



b



JERICHO, 1936.

a. SHRINE OF E.B. I, BABYLONIAN IN CHARACTER, IN LAYER VII (420).
IN THE BACKGROUND (L.) LAYER X.
b. CULT OBJECTS OF STONE, CHIEFLY FROM LAYER VII.

II. POTTERY OF THE MIDDLE AND LATE NEOLITHIC PERIODS

(PLATES XXIX-XXXIII AND XLII)

THE POTTERY OF LEVEL IX (MIDDLE NEOLITHIC)

Ware. The main characteristic of the pottery from Level IX lies in the composition of the paste. The device of adding grits or small stone particles as a *dégraissant* to the clay had not yet been invented in that period. The neolithic people had to use chopped straw as a binding material for their potter's clay. The use of straw is attested by impressions left by the vegetable matter inside the clay and also by the presence of actual straw particles noticeable when a potsherd is deliberately broken. The straw is completely decayed and disappears after being exposed to the air for some time and only its traces remain visible. Here and there we find bits of stone or pebbles, as we cannot expect the neolithic potters to have levigated their clay too carefully. But the rarity of these grits and their large size with their complete absence in most of the potsherds is a certain proof that they have not been added intentionally as was done in later periods.

Another feature of the neolithic ware is its porosity, which may be due partly to the inadequate firing, but chiefly to the spaces left by the straw after its oxidisation.

In cases where the binding material was ineffective, the surface of the pottery shows a network of deep cracks.

The addition of chopped straw is known from other early sites like Wadi Ghazzeh,[1] Anau [2] (first period), Ballas,[3] and Badari.[4] It is also practised to-day by primitive peoples in Nubia [5] and elsewhere.

The colour of the ware is light creamy, light buff or very light red. The thicker vessels often have a grey core.

Technique. All the neolithic pottery of Jericho is handmade. But even as such, it is remarkable for its coarseness and its primitive finish.

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1. MacDonald, Starkey, Harding, *Beth Pelet,* II, p. 5.
2. Pumpelley, *Explorations in Turkestan,* I, p. 126.
3. W. M. F. Petrie, *Naqada and Ballas,* p. 11.
4. Brunton and Caton Thompson, *The Badarian Civilization,* p. 21.
5. Unpublished notes of Prof. G. Reisner, kindly supplied by Dr. C. S. Fisher.

Many fragments have deep grooves from pressing the vessel when still wet with the finger-tips ; others show small lumps of clay added to fill up the concavities of the surface. The walls of some thick open bowls were made of two cakes of clay pressed one against the other. This is visible in cases where part of one cake has flaked off along the join exposing the surface of the other. A primitive technique consists in building up the vessel with thin clay rolls laid transversely one above the other in layers.

The larger pots of the neolithic period seem to have been but lightly fired. Consequently the ware is in many cases friable and comes off in bits when pressed with the finger nail. The thinner and finer vessels have a much better consistency, but the firing is still inadequate. Only towards the end of the period the firing became more thorough, and a large proportion of fragments accordingly shows a red colour where broken.

Surface. The surface of this pottery is strikingly uneven, smoothed off by hand, or showing impressed lines running in groups in various directions, often intersecting each other. These impressions are mostly found on the inside of the vessel, but sometimes also on the outside. It looks as though bunches of grass were used to smooth off the surface of the pottery. On some smaller and finer vessels impressions of the grass blades are visible below the burnishing marks. Here the smoothing has been done first with grass on the original pottery surface and then improved by the burnishing tool after the application of the slip.

A fact which first attracts one's notice when examining a group of neolithic fragments is the great difference between the treatment of the inside and that of the outside of the vessels. Only the outside has received the attention of the potter while the inside has nearly always been neglected. In the earlier phases the inside surface appeared not to have been worked at all but left crude and unsmoothed. Gradually the smoothing process was carried inside the vessels, but a difference in the degree of treatment always remains, *e.g.* the paint and burnishing were applied on the outside only, even in the case of bowls. In rare cases, and probably at the end of the period, the burnishing is equally applied on both sides of the vessel.

The surface of the pottery in general, and even the highly burnished surface of small vessels, is often cut by thin irregular incision-like marks. These are the beds of small pieces of straw which happened to be on the surface and decayed away. Wherever the straw pieces lay somewhat below the surface the incisions are narrow above and get wider below, inside the clay. Sometimes they continue as thin channels inside the ware and appear as pinholes at the break.

The colour of the surface, if not covered with a slip, is mostly greyish buff, sometimes with a greenish tinge, or light red to reddish buff.

Forms. Owing to the crumbly consistency of the ware all the neolithic pottery was found in small fragments and no complete shapes could be recovered.[1] But out of single elements we can form some general ideas about the shapes of the vessels.

The main forms are :—

(*a*) Bowls with walls curving in at the top (Pl. XXIX, 1-4). The curvature is generally very slight and the mouth is therefore more open and much wider than in the Late Neolithic and Early Bronze periods. This form is sometimes provided with loop handles (no. 2).

(*b*) Large open bowls with vertical straight walls (nos. 5-7).

(*c*) Jars with a shoulder and a narrower or narrowing neck (nos. 8-18). Some have handles which are placed on or just below the shoulder (nos. 11 and 17).

(*d*) Large or small bowls and dishes with curving-in walls (nos. 19-23).

(*e*) Bowls and dishes with walls tending to splay outwards in a continuous straight line and forming an obtuse angle with the base like the familiar flower-pot (nos. 24-26).

As can be seen from the drawings the outlines of the various types are extremely simple. Nothing breaks the regular line of the vessel between rim and base, except a bulge above the handle in type (*d*), which is more pronounced on small vessels.

Rims. The rim of the neolithic period is always plain. There is no attempt whatsoever to modify its straight profile : it is just a continuation of the wall of the vessel. In all the types whether with vertical or with flaring walls, and even in the jars of class (*a*), the rim is not distinguishable as a separate element but forms merely the edge of the wall.

The rim of the straight-sided bowls is either rounded or more often ends in an angular edge square in section (no. 6). The vessels of class (*c*) mostly have a rim tapering to a blunt edge (Pl. XXX, 3). The rim of the class (*a*) jar is rounded (no. 3) or becomes suddenly thin at the very top (no. 1). Quite peculiar is a rim with a broad ledge on the inside (nos. 27 and 28).

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[1] Some forms were recovered, however, in 1935 ; see *Annals*, XXII, Pl. XLIV, 22, and XLV, 27 ; Pl. XXX, Nos. 17 and 20, of this Report, which reproduces two of them.

Handles. The neolithic handle is essentially a loop, broad and flat, not widening at the upper and lower attachments like the 'chalcolithic' handle.[1] The shape is quite irregular and rather clumsy, and may be likened to a flat 'strap' with a low curve at a small distance from the body of the vessel (Pl. XXX, no. 3). We find also handles which are less flat, even with a rounded back, semicircular in section (no. 2), but they are in the minority and seem to be exceptional. In most cases the loop is too small for a finger to pass through, but even so it could be used for lifting the vessel. Given the conditions of the soft clay and of the poor technique the handle had to be made small and close to the body, as otherwise it would have been easily broken off. We have also a large handle; but of this only two examples were found (no. 4), while all the others belong to the type described above.

On the smaller and well-burnished jars, especially towards the end of the period, the handle becomes more shapely and regular, while its section is rectangular with rounded edges (no. 5). Some handles look at first sight like lugs, but on closer examination they appear to be minute loop handles (Pl. XXIX, 17). The true pierced lug is quite rare and is set vertically just below the plain rim (Pl. XXX, 5). A peculiar form is the 'knee-handle' which forms a sharp angle of 90 degrees. The broken state of the pottery does not permit one to be quite definite about the usual number of handles, but it is most likely that the vessels were two-handled.

Knobs. Many of the vessels, especially the wide open bowls, have raised knobs, which do not always seem to have been applied but modelled out of the clay of the wall.

We can distinguish the following types :—

1. Hemispherical knobs of two varieties :
    (*a*) large, roughly circular in plan (no. 9), or oblong (no. 10), and in the latter case set horizontally. Usually 3 to 6 cms. below the rim.

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[1] 'Chalcolithic': a term descriptive of the latest Jericho neolithic. See p. 68.

(*b*) Small, circular (no. 12) or oblong, and set vertically, usually just below the rim.

2. Cylindrical knob having sometimes the shape of a low truncated cone.
3. Knob-ledge, flat or concave, mostly semicircular. In one case a knob-ledge was found to be pierced vertically (no. 11).

The knobs served probably as a grip when lifting the vessel, except the variety 1 (*b*), which is purely decorative. The varieties 1 and 2 are confined to the Middle Neolithic period, while 3 is found also in the Late Neolithic (Chalcolithic) where it is probably a forerunner of the plain ledge handle of the Early Bronze period (cf. Fifth Report, p. 159).

Bases. The bases are always flat. Some are sharp at the turn (Pl. XXX, 14) or even spread out at the bottom (Pl. XXX, 18), and thus are similar in form to the bases of the Late Neolithic and Early Bronze periods. But the most common base of Level IX is rounded at the turn (Pl. XXX, 22), very smooth and covered with red paint. In a few cases the red paint is found also on a base with sharp turn.

Of quite exceptional occurrence is a ring-base of a small vessel covered with pink paint and found in one of the lowest neolithic deposits. As may be expected, the ring is quite irregular in form and of primitive execution. This is certainly the oldest ring-base known, as otherwise this feature does not appear in Palestine before the M.B. ii period.

Decoration. In the beginning the neolithic potters must have been too busy with overcoming the difficulties of their new industry to be able to think of decorative devices. Except for the small hemispherical knob, the oldest neolithic pottery is absolutely free from any kind of studied decoration.

The red slip which covers the outside of many pots is rather a surface treatment, like the burnishing. No attempt is made to design any ornament, to leave spaces in reserve, or to emphasise the rim with a painted band as in the Late Neolithic period. The slip covers the whole of the surface and is also applied to the bottom of the vessel where it cannot be seen, thus showing that it is not meant to be a decoration. This is also evident in the case of bowls, which in other periods are recognisable even in small fragments by paint or slip on the inside, whereas in the Middle Neolithic period and especially in its earlier stages the slip is applied to the outside only, which is certainly less visible than the inside.

The only colour used is red, mostly dark, but also light red or pink is found. No other colours are known. Later in the period we meet the brown slip which is the first step towards the decorated pottery of the end of the neolithic period.

Burnishing. The slip-covered surface of the pottery is usually burnished, except in the case of larger vessels. The burnishing is irregular but close and usually continuous. The direction of the strokes is horizontal or somewhat oblique. No case of vertical burnishing can be recorded. The quality of the burnishing is quite high, especially in the small pots, and the highly polished effect is in striking contrast to the coarseness of the ware.

At the beginning of the period the burnishing and likewise the slip are found on the outside only. Later, the slip and burnish are sometimes applied on the inside as well.

The Decorated Pottery of the Middle Neolithic period. In the upper strata of Level IX appears a class of pottery with geometric design which shows a type of decoration completely new and apparently unique.

This type of pottery is of fine, light buff ware, without grits; the straw added to the clay is not so abundant as in the older neolithic pottery. The surface is well smoothed, usually better on the outside, but some fragments show an equally fine surface on the inside as well. Many fragments have on the interior impressions of smoothing with grass bunches.

A dark brown paint of chocolate colour is applied to the outside and covers the greater part of the surface. Horizontal bands or large chevrons left in reserve show the original pottery surface or creamy slip and thus form a regular geometric pattern. The paint is usually well burnished and highly lustrous. Care has been taken to limit the burnishing exactly to the painted portions and thus to increase the attractive interchanging of painted and reserved spaces. Only in one or two cases the burnishing tool is seen to have slipped off and gone over the reserved pottery surface. In a few cases we find the same geometric scheme in unburnished red. Sometimes the reserved space predominates and the chevrons are formed by brown bands.

The decoration is found nearly always on the outside, and only rarely also on the inside (Pl. XXXI, 3, 17 and 19).[1] This class of pottery comprises chiefly wide-open bowls with flat bases, small jars with vertical or curving-in walls, and cups with vertical sides. The handles are either the usual neolithic strap-handles (Pl. XXXI, 19) or small lugs (Pl. XXXI, 10).

Exceptional forms of handles are :—

1. Vertical loop handle of rectangular shape (Pl. XXXI, 13).
2. Horizontal loop-handle with two grooves on the outside (Pl. XXX, 8).

Pottery of similar type of decoration is probably that from Site O at Tell Fara.[2] A single sherd from Ghassul shows also the same device.[3]

CONCLUSIONS

In the pottery from Level IX we have, no doubt, the very beginnings of pottery in Palestine. The coarse ware mixed with straw, the simplicity of forms, the surface treatment and the very primitive technique indicate the first attempts of the pottery industry. The fact that the pottery from Anau I shows similarities in technique as well as in colour, proves only that primitive man went naturally the same way in different places. Thus we have not to look for other origins, but may safely assume that the neolithic pottery of Jericho originated on the spot.

It is possible, though, that in the peculiar decorated ware at the end of the period we may have some foreign influences, but merely as a migration of motives. For the decorated ware cannot be dissociated from the rest of the neolithic with which it has identical paste and shapes.

Also the flint industry, which, according to Miss J. Crowfoot, shows no change from the lower levels to Level IX, confirms the fact that we have a continuation of the same autochthonous culture enriched by the invention of pottery. The making of animal and human figures, found in Levels X and XI, has prepared the way towards this new industry.

With this Middle Neolithic pottery can be compared some of that found in sites D 1 and B in the Wadi Ghazzeh by Mr. Eann MacDonald in association with Prof. W. M. F. Petrie's expedition of 1929-30.[1] But while this pottery has apparently been left behind by tent dwellers, there is in Jericho evidence of a sedentary occupation with well-built houses.[2] Perhaps the development of the higher neolithic culture in Jericho is connected with the favourable climatic conditions of the place, and future excavations may show whether other sites in the Jordan valley have a neolithic stratum with similar pottery.

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[1] Other types found more plentifully in the previous year's excavations, comprise chocolate paint on orange slip, employing similar motifs ; red on orange, used on smaller vessels, greater use being made of fine oblique lines similar to but not identical with Thessalian ; light brown on orange, used more in mass than in line. Cf. Prof. Droop's study of this pottery, *Annals*, XXII, pp. 169 ff. (J. G.)

[2] Macdonald, Starkey, Harding, *Beth Pelet*, II, Pl. XXXIV.

[3] *Biblica*, 1935, Pl. 5, top right.

THE POTTERY OF LEVEL VIII: LATE NEOLITHIC

(Previously, in 1935, called 'Chalcolithic')

Ware. The pottery of Level VIII is characterised by the addition of large and small grits of light grey to dark grey colour.[3] The even distribution of the grits in the ware and their presence in all types of vessels show clearly that they were added intentionally to the clay to prevent its cracking during drying and firing.

The ware is hard and compact and baked evenly through. This suggests that the firing must have been done in kilns under an intense and regular temperature.

The pottery is bright red or less frequently reddish buff: the red colour spotted with the grey grits, etc., gives the pottery a peculiar appearance, quite distinctive from the neolithic pottery on one side and from that of the Early Bronze period on the other.

Technique. In the chalcolithic period we can witness the partial introduction of the tournette. Very clear and regular wheelmarks are visible on jar rims and on small bowls. As the fragments from the body of the vessels do not show any wheelmarks, we may conclude that the wheel was used for the rim only, which was then set into the handmade body. This process has left the raised and irregular ridge found at the fusion line of rim and shoulder on the inside (Pl. XXXII, Type 21).

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1. MacDonald, Starkey, Harding, *Beth Pelet*, II, Pl. XXX, upper rows.
2. A striking parallel is also given by the neolithic pottery from Fayum, which resembles closely our common pottery both in shapes and in technique. Cf. C. Caton Thompson and E. W. Gardener, *The Desert Fayum*, Vol. I, pp. 35 ff. and Plates.
3. The geologist Dr. P. Solomonica of Jerusalem kindly supplied the following information: The grits consist of flint, dolomite, limestone and bituminous limestone. All these minerals are found in the neighbourhood of Jericho, and the last mentioned is particularly connected with the region of the Dead Sea.

This technique is similar to that applied to the ovoid jars of the M.B. i period.

Surface. The treatment of the surface is one of the features which marks the most striking contrast with the Middle Neolithic pottery. The surface is always well finished and very smooth to the touch. Both the exterior and the interior of the vessel are treated in the same way, and except in the case of large pots are quite equal in their appearance.

The colour is of various shades of red, reddish buff or buff. On many coarser vessels the grey grits appear also on the surface.

Forms. The forms of the pottery are very numerous as compared with those of the preceding period. We have not only a great variety of details like different kinds of handles, necks, rims, etc., but also a number of different types of vessels. Ovoid and open jars, bowls with and without pedestals, hole-mouth bowls, etc., show an increase of uses and a refinement of technique far in advance of the conditions seen in the neolithic. Unfortunately no complete vessels were found so that the forms of the vessels can only be inferred from the shapes of the fragments.

Necks and Rims. The great innovation of the Late Neolithic (or 'Chalcolithic') period with regard to form is the introduction of necks and rims as a separate element in the shape of the vessel.

A very common type is a tall, hollow rim, set vertically into the shoulder, concave on the inside and convex on the outside, having in section the shape of a bow (Pl. XXXII, Type 21). This bow rim is usually covered with a red paint on the outside and inside. Very often the red or brown paint is applied in horizontal irregular streaks, a 'grain-wash.' The bow rim belongs to a high jar with flat sloping shoulder, narrowing towards the flat bottom.

An exact parallel to our rim is the pithos rim, Type 16 G and P-R of Megiddo, found in stages V-VII.[1] One of our most complete bow-rim jars had probably no handles and was decorated with incised herring-bone pattern (Pl. XXXIII, 18), while the Megiddo pithos is described as having a raised rope design and probably also ledge handles. It is obvious that this jar died out in Jericho before the ledge handle period but survived in Megiddo till the Early Bronze Age when ledge handles and rope patterns were applied to it.

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[1] Engberg and Shipton, *Chalcolithic and Bronze Age Pottery of Megiddo*, fig. 4 and chart.

A type of jar, probably similar in general shape to the one described above, has a flaring curved rim (Pl. XXXII, 22), wheel-made and inserted into the handmade body.

A less frequent type of rim is steeper, and rises in a straight line from the shoulder.

The rims shown (Pl. XXXII, Types 24 (*a*) and (*b*)) belong to large store jars of thick ware, sometimes rather coarse, but with a very smooth surface. These jars must have had vertical or somewhat incurving walls, which ended in a heavy rim without an intermediate neck. The rim thickens suddenly and has a broad top, flat or slightly convex. The outer surface of the jar is usually covered with red paint or has only a red band at the top of the rim. Narrow ledges with or without finger-indentations serve as handles (Pl. XXXII, 29). Similar rims were found at Ghassul.[1]

In the upper strata of our level we find a jar with short-neck and outturned rim (Type 23), sometimes adorned with finger-indentations or with a regular plastic rope pattern at the top of the rim.[2] This type of jar differs only from that found in the E.B. period by the peculiar chalcolithic fabric, bright red with large grits visible also on the surface.

But the most common jar is a ‘ hole-mouth ’ type of very smooth surface and of buff to light red colour (Type 25). The lip is sharply profiled, sometimes almost rectangular in section, and is in many cases emphasised by a band of red paint. A narrow ledge-handle is frequently set 2-3 cms. below the lip (Type 29 (*a*)).

Less frequent varieties of the hole-mouth jar have a rounded or thin lip (Type 25 (*b*)).

Bowls. The bowls have steep walls, turning suddenly into a shallow bottom, and are sometimes ‘ carinated ’ (Type 26). The rim is mostly everted and always thin at the top. The bowls, with a variety of small differences in shape, form a special class distinguished by thin ware covered with a dark red slip on both sides, often highly burnished.[3] These bowls found in great quantity testify to the highly developed technique of the chalcolithic potters of Jericho.

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[1] A. Mallon, *Teleilat Ghassul*, fig. 38; *Annals*, 1935, Pl. XLI, 1-7.

[2] *Ibid.*, fig. 52, no. 6.

[3] Class ‘ g ’ of previous year. Cf. J. P. Droop in *Annals*, Vol. XXII, p. 173.

Bases. Nearly all the bases are flat, mostly sharp at the turn (Type 33 (*b*)), sometimes spreading out and rarely rounded (Pl. XXXIII, 22). The characteristic feature of the chalcolithic base is the impression of a circular mat on its bottom (Type 33 (*b*)).[1] Sometimes we may recognise just faint traces of it, but its presence is ubiquitous, and only in a limited number of cases the base is quite smooth, without any trace of impression. The mat impression is even present at the bottom of the holed pedestals (Type 33 (*a*)).

Handles. The regular handle of the chalcolithic period is a loop handle, flat, thin, strongly splayed at the upper and lower attachment and forming a rounded bow (Type 27).

Similar handles came from the Pits and from Level XVIII of Beth-shan,[2] and a study of the specimens shows that, while the handles of Level XVIII itself are much thicker and clumsier than ours, the specimens from the Pits and from below Level XVIII give an exact parallel to the chalcolithic series of Jericho. This type of handle is not found in Ghassul.

The forerunner of the ledge handle is represented in our level by the knob-ledge (Type 28) described on p. 159 of last year's Report. The stratification of this year has shown that the knob-ledge exists in both the Late and Middle Neolithic levels, while the true knob is confined to the Middle Neolithic level only. Ghassul has the knobs also in the Late Neolithic (Chalcolithic) stratum.[3]

We have another forerunner of the E.B. ledge handle in the small ledge (Type 29). This is found on hole-mouth pots (Type 29 (*a*)), on jars with heavy rims (Type 29 (*b*)), and on coarse deep bowls. The ledge is 1-1·5 cms. wide and 4 to 8 cms. long. It has the shape of a blunt triangle or forms a flat crescent [4]; in the former case it is slightly tilted upwards. On some jars with heavy rim the small ledge has finger indentations or sometimes nicks along its edge (Type 29 (*b*)).[5]

Another ledge or lug of similar shape is broader, pierced vertically and tilted upwards (Type 30).[6]

A vertical lug handle was found last year [7] and was not uncommon in

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1. MacDonald, Starkey, Harding, *Beth Pelet*, II, Pl. XXXIV, nos. 10-12 ; A. Mallon, *Teleilat Ghassul*, Pl. 39.
2. G. M. FitzGerald, *The Museum Journal*, XXIV, Pl. II.
3. A. Mallon, *Teleilat Ghassul*, fig. 41, nos. 1, 3 and 6.
4. *Ibid.*, A. Mallon, *Teleilat Ghassul*, fig. 41, no. 4.
5. *Ibid.*, fig. 41, no. 8.
6. *Ibid.*, fig. 41, no. 5.
7. J. Garstang, *Annals*, Vol. XXII, Pl. XLIII, figs. 13 and 14.

the tombs (4*a*), it also occurs at Beth-Shan,[1] but this season only the horizontal variety was found. Although in small fragments the horizontal position of the handle is indicated by the tilting and also by the fact that the paint is applied on one side only, which must have been the upper side.

Holed Pedestals (Type 32). A great number of fragments belong to pedestals of bowls or incense stands. They have holes pierced just below the bottom of the bowl or somewhat lower.[2] To the pedestal with curved and spreading-out foot of the previous season (cf. Fifth Report in *Annals*, Vol. XXII, Pl. XL, no. 35) we have to add a new variety with tall and straight foot (Type 32 (*a*)). This season the straight pedestal was in overwhelming majority and only very few cases of the rounded foot were recorded. Judging by the fragments, the foot reached sometimes a height of 10 cms. and the holes were variously placed between 3 and 9 cms. above the bottom (Pl. XXXIII, 1 and 2).

The straight pedestal obviously served for a simpler purpose as it is undecorated, while the rounded pedestal is invariably covered with a red slip. In one case there was a tree-like incision on a straight pedestal, but no paint.

Decoration. The artistic decoration of the end of the Middle Neolithic dies out with that period and no traces of it are found in the pottery of Level VIII. Although the use of red or almost black paint is very common, no designs occur.

The *painted decoration* of the Late Neolithic series comprises the following types :—

(*a*) Complete covering of the surface with red slip.
(*b*) Irregular splashes of red or black paint.
(*c*) A single band of red paint on the top of the rim (Type 34 (*c*)).

Type (*a*), which can also be considered as a mere surface treatment, is applied on both sides of the bowls described on p. 86, or on the outside of jars.

Type (*b*) is very frequent and found practically on all types of pottery. It is applied on different parts of the vessel, particularly on the necks and on the handles. In some cases, especially on bow rims, the splashes have the shape of irregular parallel bands of varying width and distance apart, some of which are streaky and produce the effect of the ‘ grain wash' known in the E.B. period. But whereas the true grain-wash is chiefly vertical,[1] the Late Neolithic grain-wash consists of horizontal lines [2] (Type 34 (*b*)).

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[1] G. M. FitzGerald, *The Museum Journal*, Pl. II, fig. 6.
[2] A. Mallon, *Teleilat Ghassul*, fig. 56, nos. 9 and 10.

Type (*c*) is a constant feature of the square-edged hole-mouth (Type 25) and of the jar with heavy rim (Type 24). The band is quite straight and usually overlaps from the edge of the rim on the exterior and interior of the vessel.

Only in one case a large chevron was formed by broad dark red bands; otherwise the decoration does not show any ornament or design.

The place of the latter is taken by the *incised decoration.*

By far the most numerous class is the herring-bone ornament (Pl. XXXIII, 13-18), consisting of converging straight strokes made with a sharp instrument, perhaps with a well-pointed bone. This pattern is found especially on large jars, like that with bow rim (Pl. XXXIII, 18), and usually runs horizontally on the shoulder or on the joint between shoulder and body. It is often accompanied by two continuous parallel grooves running at both sides.

The incised vessels are in many cases covered with a red slip applied after the incision. The incisions are always on the outside, except in one case where they appear on the inside of a bowl.

Other forms of incised decoration are: parallel wavy lines, lattice incision, irregular round lines (Pl. XXXIII, 10), short incised strokes arranged in a triangle on the upper attachment of a handle, etc. Rows of small incised circles appear at the end of the period. Crescent-shaped indentations were probably made with the thumb nail.

The plastic rope decoration which is so frequent on other chalcolithic sites was very rare last year in Jericho [3] and is entirely lacking this season.

Combing is rare. It is raised, like in the E.B. period, but the lines are much coarser and wider apart.

Burnishing is found only on small bowls, where it is continuous and produces almost the effect of glaze. Otherwise burnishing is not used in Level VIII.

The grey burnished ware does not exist; in fact this class seems to be confined to the north of the country.[4]

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[1] W. F. Albright, *Tell Beit Mirsim,* I, p. 5; Engberg and Shipton, *Chalcolithic and Bronze Age Pottery of Megiddo,* fig. 8.

[2] Like in Ghassul; cf. A. Mallon, *Teleilat Ghassul,* p. 113.

[3] *Annals,* Vol. XXII, Pl. XLI, 28.

[4] W. F. Albright, *J.P.O.S.,* Vol. XV, p. 205.

CONCLUSIONS

The chalcolithic is an intrusive and probably foreign culture which comes suddenly and replaces the native neolithic of Jericho. Its foreign character has been maintained for the chalcolithic of Ghassul, and this fact can be substantiated for Jericho by the following considerations.

The cleavage between the two pottery cultures is extremely marked, and we have no links, no intermediate types, between them, although the two follow each other closely in the stratification. There is certainly as great a difference between the Middle and Late Neolithic pottery of Jericho as there is between that of any two successive periods in Palestine.

The new period brought with it the following innovations, every one of which would be enough to postulate an intrusive culture :—

1. Use of grits as binding material in the paste.
2. Introduction of the tournette.
3. High development of technique, firing and surface treatment.
4. Richness in forms and details of vessels.

We have seen above how the pottery from Level VIII is closely connected with the chalcolithic pottery from other sites in Palestine, especially with Ghassul.[1] But this refers chiefly to the forms, whereas the finish, the surface of the pottery and the execution of the details show a much higher development than in Ghassul. This fact cannot be due merely to local differences, especially as the two sites are so near to each other. In addition we have also to bear in mind that the pierced lug handles of Ghassul are substituted in Jericho by well-modelled, flat loop handles, which are identical with those of the Late Chalcolithic Levels XVIII and XVII of Beth-shan. We may thus safely assume that Jericho VIII is one or two centuries later than Ghassul.

But as the stratification of Jericho shows an immediate succession of Level VIII after the neolithic of Level IX, we have to conclude that the neolithic culture of Jericho had a long duration and that its latest phase existed contemporaneously with the Ghassulian chalcolithic.

IMMANUEL BEN-DOR.

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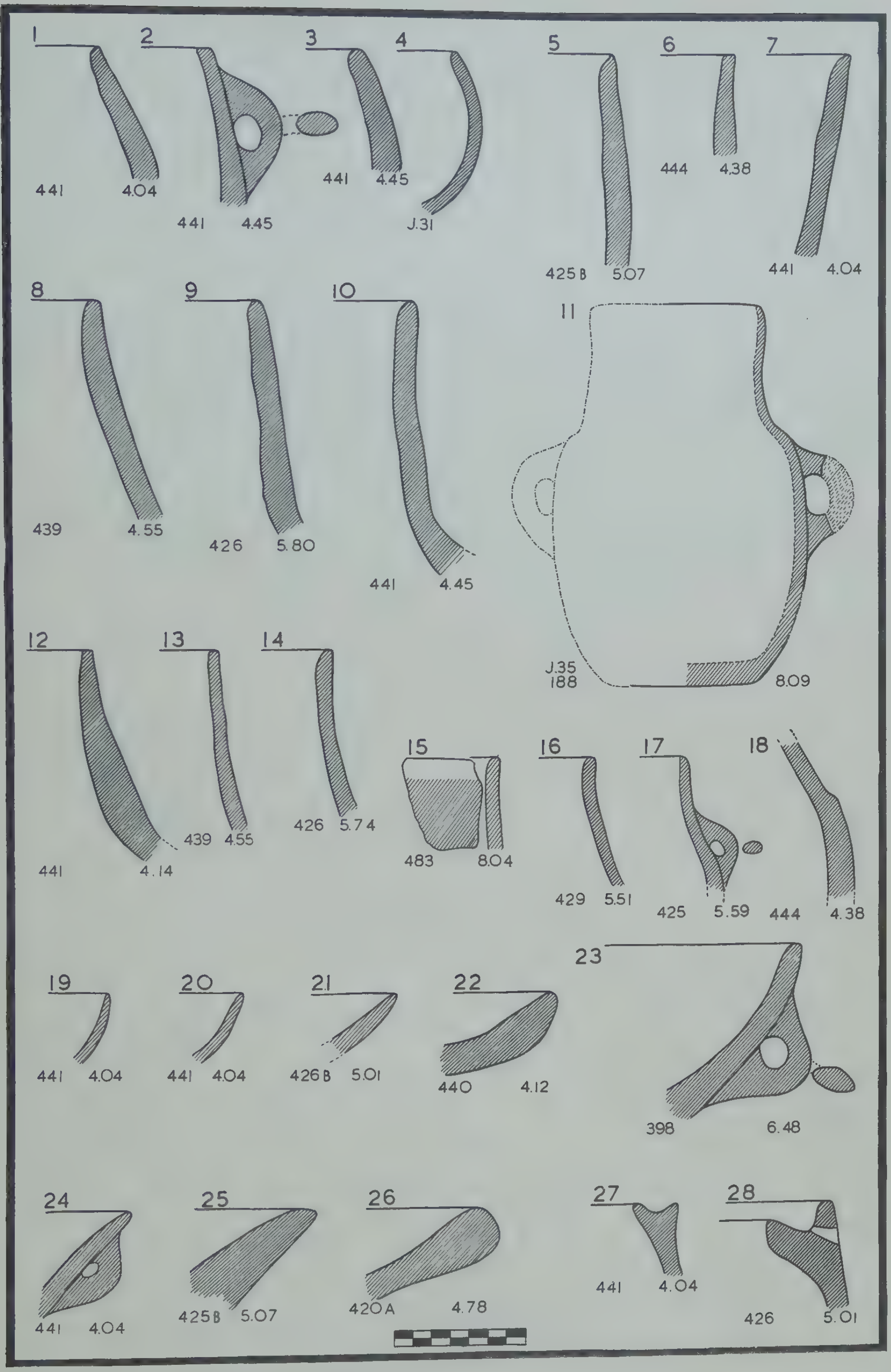
[1] An equally suggestive parallel is the pottery from the sites A, B, D2, E, M and O in Wadi Ghazzeh. Cf. MacDonald, Starkey, Harding, *Beth-Pelet*, II, Pls. XXXI-XXXV and text.

JERICHO, 1936.

PLATE XXIX. POTTERY OF THE MIDDLE NEOLITHIC LAYER IX. FORMS.

No.		
1.	Brick ware, no grits; wet-sm. int.; red slip-sm. ext.	441.
2.	Brick ware; occasional large grits; wet-sm. int. and ext.	441.
3.	Drab ware; slip-sm. int.; grey slip-sm. ext.	441.
4.	Buff ware; cream slip; bright red painted dec. ext.; Annals XXII, Pl. XLIV, 7.	
5.	Brick ware, large grits; wet.-sm. int.; slip-sm. ext.	425B.
6.	Lt. brick ware, no grits; wet-sm. int. and ext.	444.
7.	Drab ware, occasional grits; slip-sm. int. and ext.	441.
8.	Drab ware, few large and small grits; wet-sm. int.; slip-sm. ext.	439.
9.	Brown ware, grey core, few coarse grits; grey slip-sm. ext.	426.
10.	Lt. brick ware, grey core, no grits; rough slip-sm. int.; red slip-sm. ext. and rim.	441.
11.	Buff ware; slip-sm.	188 J.35.
12.	Lt. brick ware, no grits; wet-sm. int.; creamy slip-sm. ext.	441.
13.	Drab ware, few fine grits; wet-sm. int. and ext.	439.
14.	Brick ware, few coarse grits; wet-sm.	426.
16.	Brick ware, few fine grits; slip-sm. int.; brown slip-sm. polished ext.	429.
17.	Lt. brick ware, no grits; wet-sm. int.; reddish-brown slip-sm. ext.	425.
18.	Drab ware; wet-sm. int.; slip-sm. ext.	444.
19.	Drab ware, no grits; slip-sm. int. and ext.	441.
20.	Brick ware, no grits; slip-sm. int. and ext.	441.
21.	Brick ware, few large grits; wet-sm.	426B.
22.	Drab ware, few large grits; traces reddish slip-sm. int. and ext.	440.
23.	Brick ware, no grits; slip-sm. int.; red slip-sm. ext. and over rim.	398.
24.	Brick ware, few large grits; wet-sm. int.; red slip-sm. ext.	441.
25.	Reddish-brown ware; grey core; red slip-sm. irreg. polished int. and ext.	425.
26.	Brick ware, no grits; red slip-sm. int.; red slip-sm. polished ext.	420A.
27.	Brown ware, no grits; lt. grey core; red slip-sm. irreg. bnd. int. and ext.	441.

PLATE XXIX

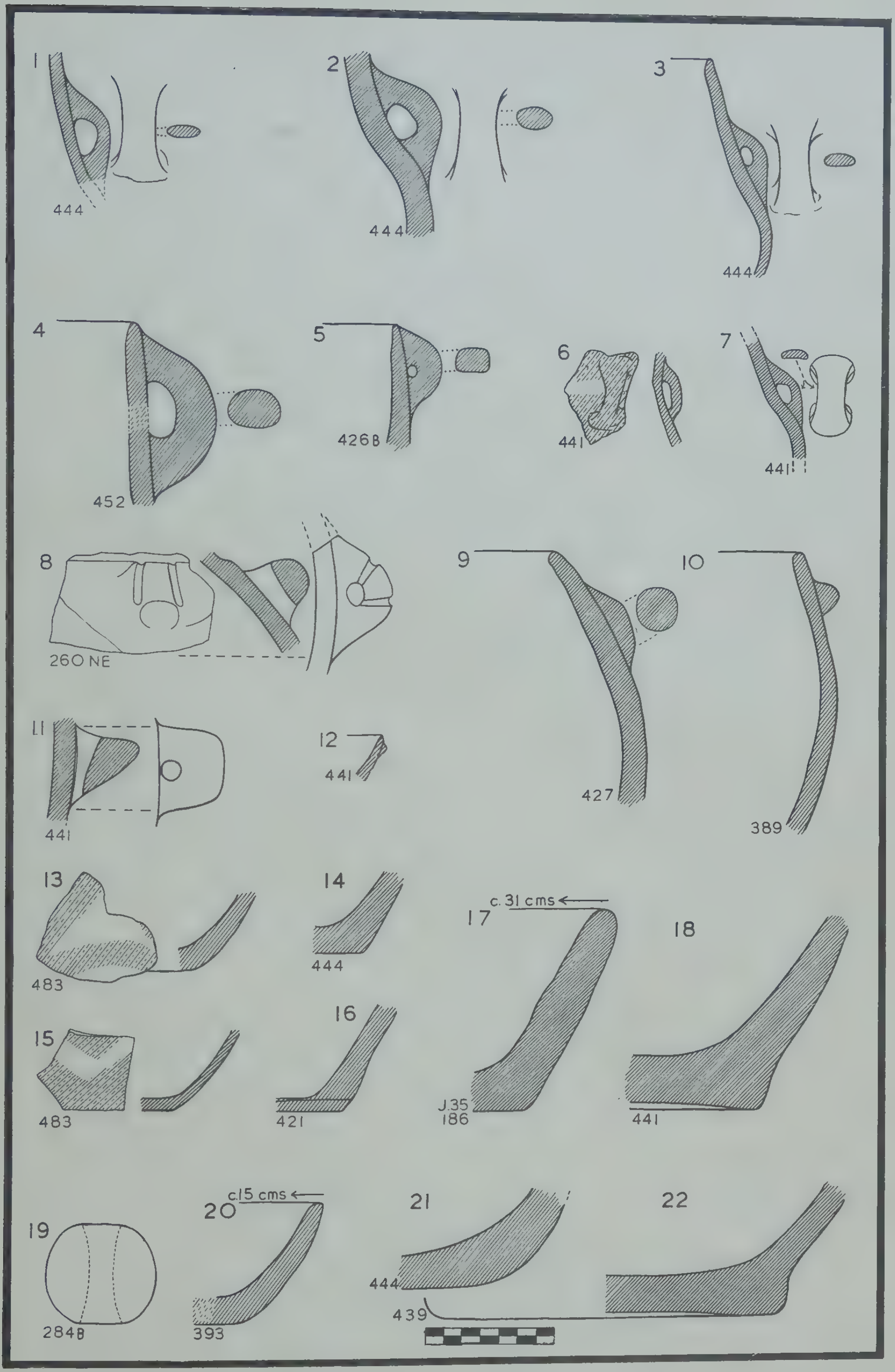


Jericho. 1936 Pottery forms of Middle Neolithic Layer IX.

JERICHO, 1936.

PLATE XXX. POTTERY OF THE MIDDLE NEOLITHIC LAYER IX. HANDLES AND OTHER FEATURES.

No.		
1.	Brick ware, few large grits; wet-sm. int.; red slip-sm. ext.	444.
2.	Drab ware, no grits; purplish-brown slip-sm. ext.	444.
3.	Brick ware, few grits; wet-sm. int.; purplish slip-sm. ext.	444.
4.	Brown ware; reddish-brown slip-sm. int. and ext.	452.
5.	Brick ware, few grits; wet-sm. int.; traces red slip ext.	426B.
6.	Brick ware; slip-sm.; dark red paint over slip-sm. ext.	441.
7.	Lt. brown ware; painted rich chocolate-brown ext.	441.
8.	Lt. brown ware, no grits; partly painted chocolate over slip-sm.	260NE.
9.	Lt. brown ware, grey core; wet-sm. int.; greyish-brown slip-sm. ext.	427.
10.	Brown ware, silica grits; fire blackened.	389.
11.	Drab ware; wet-sm.	441.
12.	Buff ware; slip-sm. int.; orange-brown slip-sm. ext.	441.
13.	Buff ware; brown painted dec. ext.	483.
14.	Brick ware, no grits; wet-sm. int.; red slip-sm. polished ext.	444.
15.	Lt. brown ware, few large grits; red paint int.; lustrous red over cream slip-sm. ext.	483.
16.	Reddish-brown int.; lt. grey ext.; some grits; wet-sm.	421.
17.	Brick ware, no grits; marks of straw; very crude.	186. J.35.
18.	Drab ware; coarse; wet-sm. int.; roughly slip-sm. ext.	441.
19.	Stone mace head.	284B.
20.	Buff ware, no grits.	393.
21.	Lt. brown ware; few large grits; slip-sm. int. and ext.	444.
22.	Lt. brown ware; lt. grey core; few large grits; slip-sm. int.; red slip-sm. ext.	439.

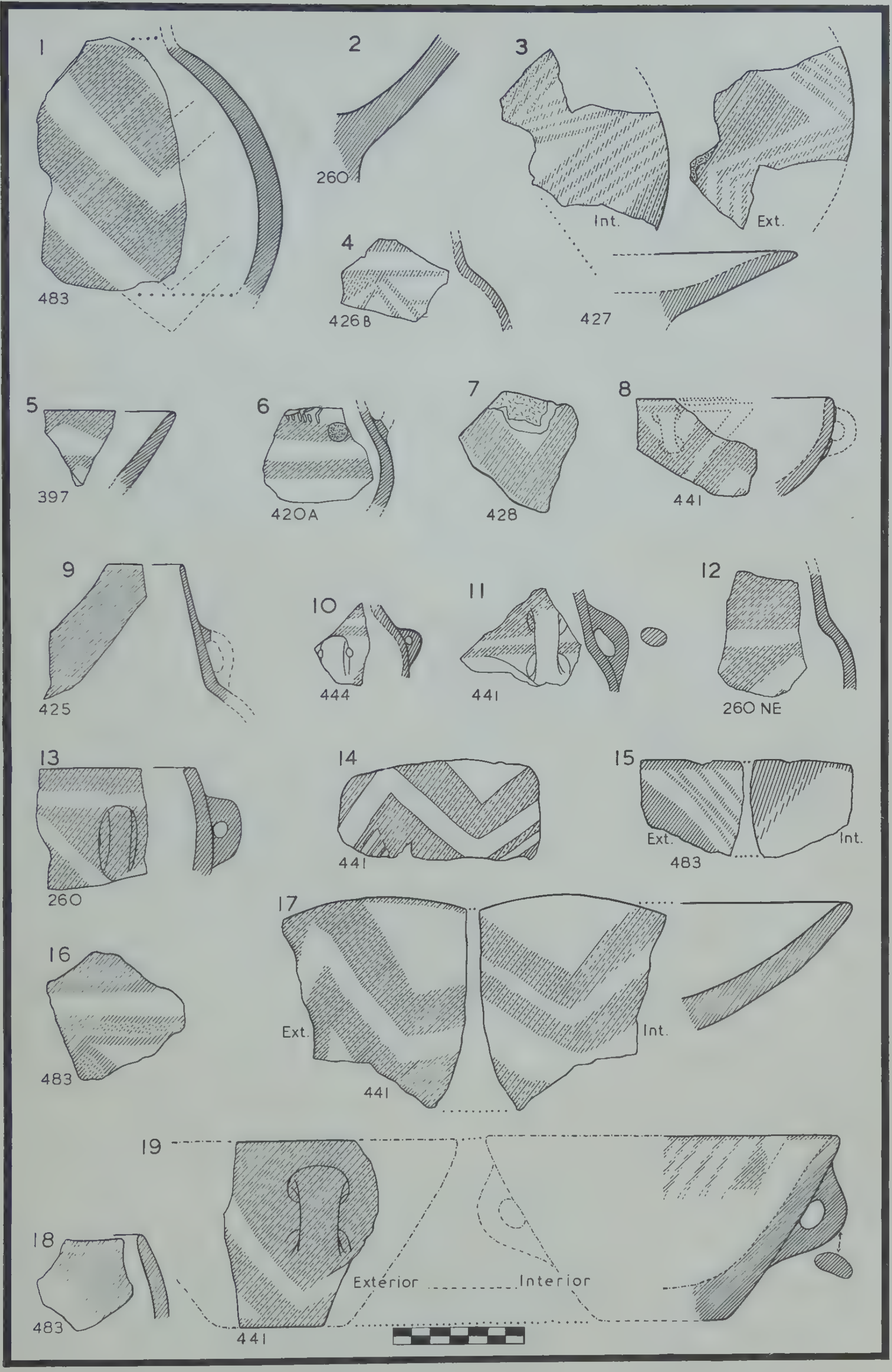


Jericho, 1936. Pottery of Middle Neolithic Layer IX showing handles, bases etc.

JERICHO, 1936.

PLATE XXXI. POTTERY OF MIDDLE NEOLITHIC LAYER IX. PAINTED DECORATION.

No.		
1.	Lt. brown ware, few grits; dec. rich chocolate over pinkish slip-sm.	483
3.	Lt. brown ware, fine grits; dec. red over pinkish-cream int. and ext.	427.
5.	Lt. brown ware; dec. lt. chocolate brown over creamy slip-sm.	397.
6.	Lt. brown ware, gritty; red bands and nicks ext.	420A
7.	Grey ware; red int.; chocolate dec. over red slip-sm. ext.	428.
8.	Lt. brown ware; dec. chocolate over creamy slip.	441.
9.	Red brown ware; rich brown paint ext. with band left at angle.	425.
10.	Lt. brown ware; dec. chocolate-brown over white slip-sm. ext.	444.
11.	Lt. brown ware; dec. chocolate-brown over creamy slip-sm.	441.
12.	Lt. brown ware; dec. lt. chocolate over creamy slip-sm.	260NE.
13.	Lt. brown ware, small grey grits; dec. red over slip-sm.	260.
14.	Red brown ware, fine grits; dec. chocolate over pinkish slip-sm. ext.	441.
15.	Lt. brown ware, fine grits; dec. chocolate over pinkish slip-sm. ext.	483.
17.	Red-brown ware; dec. chocolate over pinky slip-sm. int. and ext.	441.
18.	Lt. red ware, no grits; dec. orange over slip-sm. ext.	483.
19.	Lt. brown ware, few large grits; dec. chocolate-brown over cream int. and ext.	441.

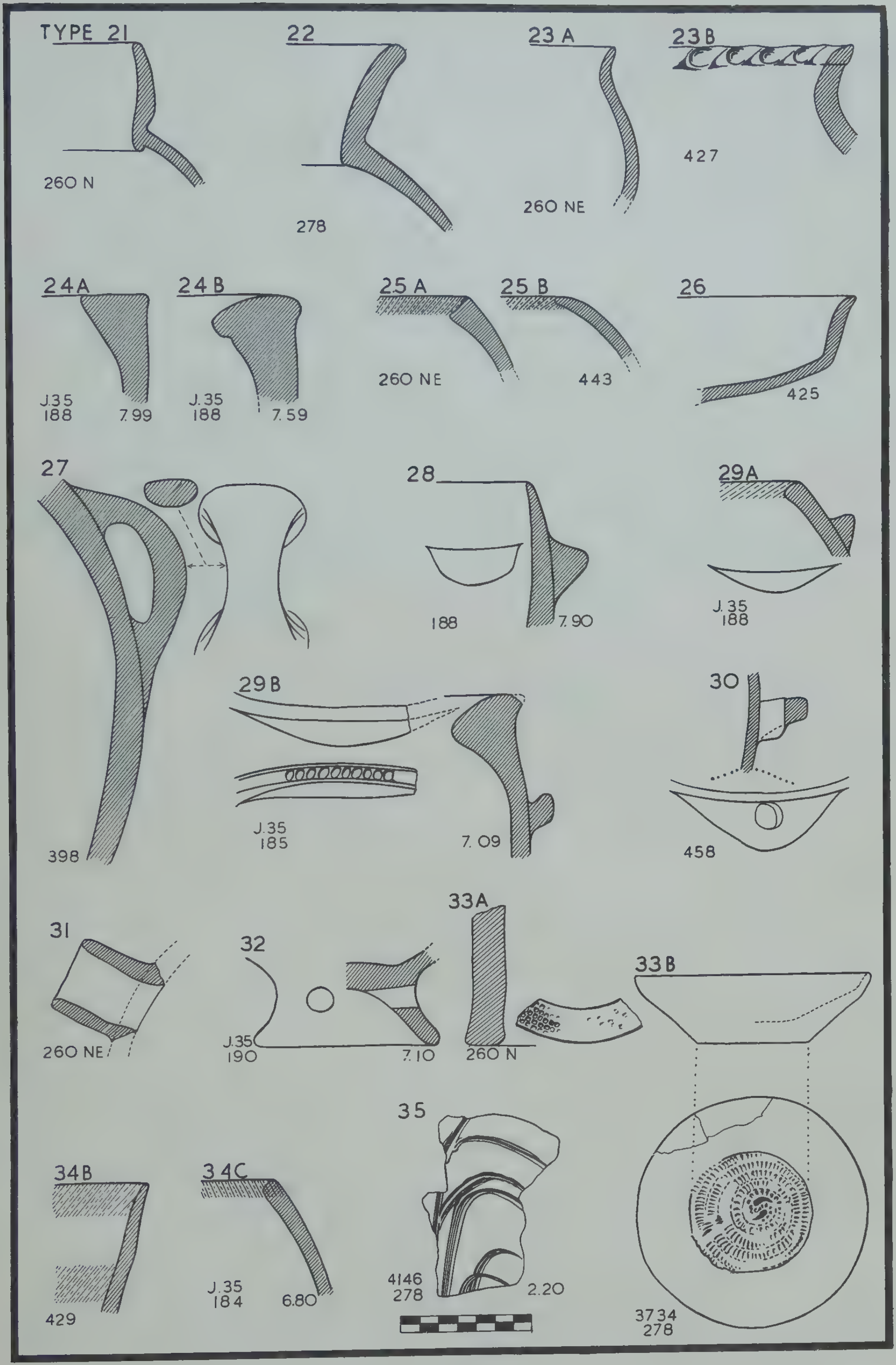


Jericho, 1936. Pottery of Middle Neolithic Layer IX. Painted decoration.

JERICHO, 1936.

PLATE XXXII. POTTERY TYPES OF LATE NEOLITHIC LAYER VIII.

No. Type.		
21.	Brown ware, small grits; creamy slip-sm. int. and ext.	260N.
22.	Brown ware, gritty; wet-sm. int. and ext.; neck red slip-sm.	278.
23A.	Brown ware, small and medium grits; wet-sm.	260NE.
23B.	Reddish-brown ware, large grey grits; wet-sm.; dec. rim.	427.
24A.	Brown ware, slip-sm. int. and ext.	188. J.35.
24B.	Brown ware, very gritty; slip-sm. int. and ext.; red slip rim.	J.35.
25A.	Brown ware, small grey grits; slip-sm.; rim painted red.	260NE.
25B.	Brown ware, small grey grits; rim painted red ext.	443.
26.	Brown ware, small grey grits; red slip-sm. polished int. and ext.	425.
27.	Brown ware, lt. grey core; no grits; rough int.; slip-sm. ext.	398.
28.	Brown ware; grey core; slip-sm.	188. J.35.
29B.	Brick ware, very gritty; slip-sm.	188. J.35.
30.	Brown ware, small grits; traces red slip sm. int. and ext.	458.
31.	Brown ware, large and small grits; slip-sm.	260NE.
32.	Brown ware; red slip ext. and on part of int.	190. J.35.
33B.	Lt. brown ware, small grits; brown slip-sm. int.; lt. red wash ext.	278.
34B.	Reddish-brown ware, fine grits; dec. red bands ext.	429.
35.	Red ware, gritty; slip-sm. ext.; incised dec. (waving grass).	278.

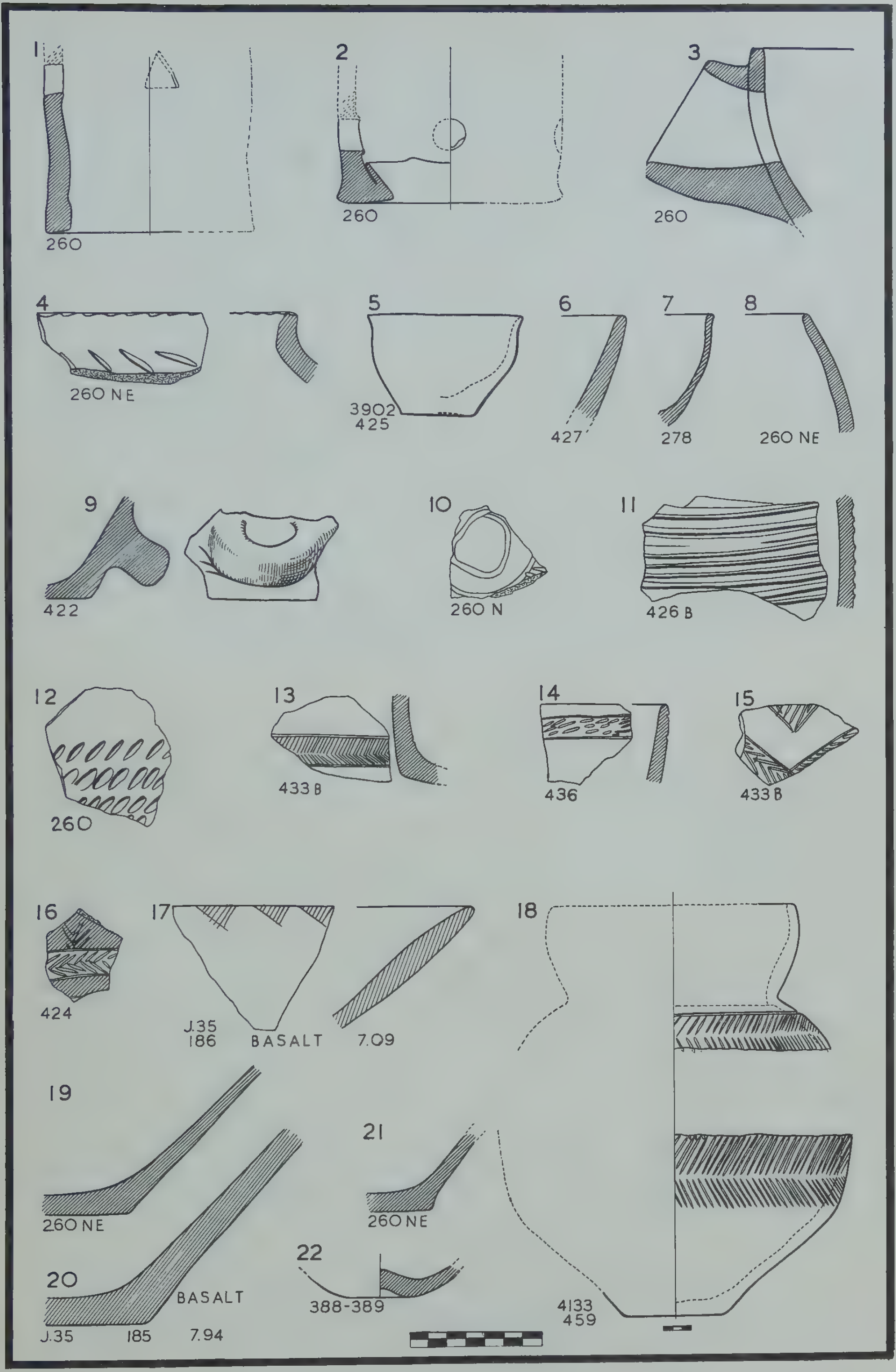


JERICHO, 1936. POTTERY TYPES OF LATE NEOLITHIC LAYER VIII.

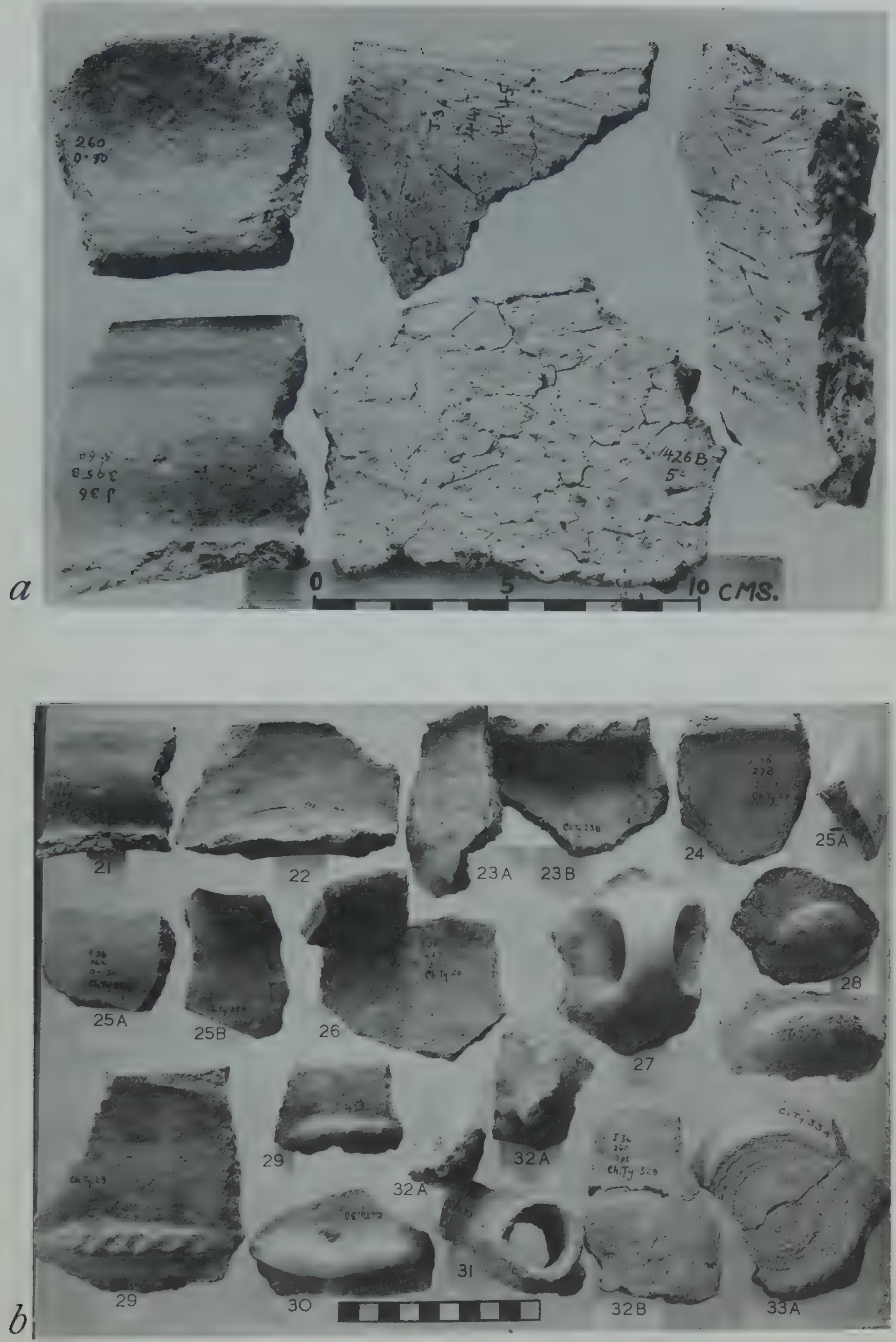
JERICHO, 1936.

PLATE XXXIII. POTTERY OF LATE NEOLITHIC LAYER VIII. DECORATION.

No.		
1.	Drab ware, gritty; wet. sm.	260.
2.	Brown ware, very gritty; slip-sm. ext.	260.
3.	Brown ware, gritty; red slip-sm. int. and ext.	260.
4.	Brown ware, small grits; wet-sm.; dec. incisions and finger impressions.	260NE.
5.	Lt. brown ware, large grits; wet-sm.	3902. 425.
8.	Reddish-brown ware, small grey grits; wet-sm. ext.	260NE.
9.	Brown ware, gritty; red paint over white wash; hand-made.	422.
10.	Brown ware very gritty; wet-sm.; incised circular dec.	260N.
12.	Lt. brown ware, very gritty; traces red brown slip; dec. incisions.	260.
13.	Brown ware; red slip-sm. int. and ext.; dec. incised chevron pattern.	433B.
14.	Dark grey ware; slip-sm.; dec. incised lines and nicks.	436.
15.	Brick ware, fine grits; red slip-sm. ext.; dec. incised lines.	433B.
16.	Lt. brown ware; painted red ext.; dec. incised lines.	424.
17.	Frag. of basalt bowl; incised dec. ext.	186. J.35.
18.	Brown ware, very gritty; wet-sm. int.; red slip-sm. ext.; incised dec.	459.
19.	Brown ware, very gritty; slip-sm. int.; wet-sm. ext.	260NE.
20.	Part of a basalt bowl.	185. J. 35.
21.	Brown ware, very gritty; slip-sm. ext.; mat impression on base.	260NE.
22.	Brown ware, small grey grits; traces of reddish-brown slip-sm. ext.	walls. 388/389.



Jericho, 1936. Pottery of Late Neolithic Layer VIII. Decoration.



Jericho, 1936.

a. (L.) Late Neolithic fabrics, Layer VIII.
(R.) Middle Neolithic technique, Layer IX.

b. Late Neolithic types, rims, handles, etc. Nos. 21-33A.

III. POTTERY OF THE EARLY BRONZE AGE

(PLATES XXXIV-XXXIX)

The excavations of the 1936 season have provided a valuable supplement to those of 1935 with regard to the E.B.A. pottery of Layers III to VII. The absence of recognisable building-levels in a great part of the area excavated in 1935 made it difficult to trace the evolution of the pottery in detail; in 1936 somewhat greater precision was attainable in spite of the fact that the uppermost layers were not represented.

The E.B.A. pottery found in 1936 falls naturally into two groups, the earlier of which comprises the finds from Layers VI and VII (immediately above the chalcolithic-neolithic levels), the later those from Layers III, IV and V.

One of the principal distinctions between the two groups is due to the appearance at Layer V of a great number of dishes and bowls with upturned or inturned rims. As is noted below, this indicates that the break between the two groups is approximately contemporary with the beginning of Level XIV at Beth-shan or of Stage IV at Megiddo, both of these being strata at which a number of new forms make their appearance. In 1935 a few pieces of the highly polished 'Khirbet Kerak' pottery were found in Room 109 at about the 12·50 metre level—that is to say, above Layer III; as this very distinctive ware has been found in great abundance at Beth-shan, but only in Levels XII and XI, and was apparently introduced there during the occupation of Level XII, we feel justified in assuming that Layers V and IV of Jericho are roughly contemporary with Levels XIV and XIII of Beth-shan, and that Layer III probably overlaps Level XII.

Assuming a continuous occupation at each of the sites in question, we must conclude Layers VI and VII to be contemporary with Level XV at Beth-shan (which we would regard as marking the beginning of the E.B. period) and with Stages V-VII at Megiddo, designated as chalcolithic by Engberg and Shipton (*Notes on the Chalcolithic and E.B.A. Pottery of Megiddo*, 1934). The characteristic decorated pottery of Jericho, however, is entirely absent from the more northerly sites.

Professor Albright (*J.P.O.S.*, XV, 1935, p. 211) would place Level XIV of Beth-shan about the twenty-ninth to the twenty-eighth century, and Stage IV of Megiddo a little later, but his dating depends on the assumption that the First Dynasty of Egypt was founded about 2900 B.C. He observes that the inturned bowl rim appears to have been imitated from Egyptian stone bowls, but his dating for these 'in the early twenty-ninth century (approximately)' involves an adaptation of Reisner's relative chronology to the much shorter dating which he himself prefers. On the other hand, even if the First Dynasty should prove to have begun earlier than Albright believes, there would still be a possibility that the upturned and inturned rims were introduced from Egypt into Palestine only at a later stage of their development (note, for example, Reisner, *Mycerinus*, fig. 41, 6-11 ; fig. 43, 6 and 8, illustrating vases of the Third and Fourth Dynasties). A systematic comparison of the Palestinian pottery of the E.B.A. with the pottery and stone vases of the Old Kingdom cannot be attempted here, but it would undoubtedly be a valuable undertaking.

The not far distant site of Aï has produced a quantity of material which invites comparison with our finds. As yet, the results of the Aï excavations have been only provisionally published, in *Syria*, 1935, pp. 325 ff., with Plates LVI-LVIII, but even a glance at the pottery there illustrated suffices to show how closely it resembles that with which we are dealing. There seems, indeed, to be scarcely any conspicuous feature of Layers III-VII that is not also found in the cemetery of Aï, but as the contents of the various tombs have not yet been published in their entirety no chronological classification is possible, and we have therefore not thought it necessary to draw attention to each particular instance of similarity.

LAYER III. The rooms of this building-level (nos. 300-308) produced only a small quantity of pottery and even this was not free from intrusive elements. The fragments included stump bases of juglets, of the type common in Tomb A (cf. also *Annals*, 1935, Pl. XXIX, 13), and jar necks with an encircling ridge such as we expect to find in M.B.A. levels (*A.S.O.R.*, XII, p. 20, Pl. XLVI, 3, 10 and 13, from Tell Beit Mirsim, and *Museum Journal*, Philadelphia, 1935, Pl. IX, 12, from Beth-shan, Level XI), but which occurred in two rooms (309 and 322) of Later IV and are therefore not likely to have been merely intrusive in the E.B.A. period. Fragments of dishes with inturned rims were noted in Layer III, as they had been in the Upper E.B.A. levels excavated in 1935. The carinated dish with a suspension handle, shown on Plate XXXVII, no. 10, is to be compared with a somewhat similar example from Room 161, which may be regarded as belonging to Layer V (see *Annals,* 1935, Pl. XXXIX, 10). The carinated form is not common and does not seem to have been found above the level of Layer III in 1935.

The only other piece of pottery from Layer III that is illustrated is the pot fragment with a knob handle of unusual shape (Pl. XXXVII, no. 11).

LAYERS IV and V. The pottery of these two layers is, broadly speaking, homogeneous, and to avoid useless repetition they may conveniently be treated together.

Dishes and Bowls constitute an important element in Layers IV and V. The commonest type is the dish with upturned rim, of which various forms are illustrated in *Annals,* 1935, Pl. XXX, 19 and 20, and in Pl. XXXVIII, no. 3, *infra,* the first named being the ordinary form. Fragments of such rims did in fact occur in Layers VI and VII, but so rarely and in such circumstances as to make it probable that they were intrusive ; they were especially abundant in Layer V, appeared occasionally in Layer IV and in the corresponding levels excavated in 1935, and were recorded in Room 109 at the 11·50 metre level, which should probably be assigned to Layer III, but they do not seem to have been found in Tomb A. These dishes are characteristic of Levels XIV-XII at Beth-shan and of Stages IV and III at Megiddo (Engberg and Shipton's Type 22 (*b*)).

Another type is seen in Pl. XXXVIII, 19, or better in *Annals,* 1935, Pl. XXVIII, 36 ; only one fragment of this shape was noted below the level of Layer V. It was found more frequently in Layer IV with the characteristic lattice burnishing on the interior surface. Similar dishes were recorded from Beth-shan, Levels XIV-XI (*Mus. Journ.,* 1935, Pl. V, 20 ; VIII, 20 and 25). Incidentally we may notice that two dishes from Room 360, shown in Pl. XXXV, 8 and 9, ought probably to be included in the pottery of Layer V. A fragment with lattice burnishing on the underside (Pl. XXXIX, 14) perhaps formed part of a dish like the one illustrated in *Annals,* XIX, Pl. I, 11, which is described as having cross lines pebbled on its base.

The pronouncedly inturned bowl-rim illustrated in *Annals,* 1935, Pl. XXVIII, 38, is fairly common in Layer IV.

In general it may be asserted that the various forms of bowls and dishes with more or less inturned rims in Pls. XXXVIII, XXXIX, 8 and

11, and in XXXVII, 7 and 14, were not found, except perhaps as intrusions, below Layer V. The inturned rim, however, persists in the higher levels of the E.B.A. (as was observed in the excavations of 1935), and is found in Tomb A (*Annals*, XIX, Pl. IV). As we have remarked, the dish or platter with inturned rim appears at Megiddo with Stage IV and at Beth-shan with Level XIV, so that we obtain a rough synchronism with those stratified sites.

From both Layers IV and V came bowls with lug handles just under the rims, like those illustrated in *Annals*, 1935, Pl. XXXVII, 4, 5 and 11—all of which, it may be observed, were found in rooms that can be assigned to Layer V. In another instance the handle was set at the angle of the rim, as in *Annals*, 1935, Pl. XXXIX, 11. The carinated dish, Pl. XXXVII, 6, has been noted in connection with the similar fragment from Layer III. We may compare the out-turned rim of the small dish—perhaps used as a lamp—which is shown in Pl. XXXVIII, 2, with examples from Levels XIII and XII at Beth-shan (*Mus. Journ.*, 1935, Pls. V, 18 ; VIII, 16).

The plain burnished bowls (Pl. XXXVIII, 20-22) hardly call for comment, but we must note the presence in Layer V of unburnished fragments with blackened rims such as are common in the layers below and would seem to have been used as lamps. The bowl shown in Pl. XXXIX, 5, with a slightly concave base, has four holes drilled in its sides.

Somewhat more remarkable is the decorated bowl on a pedestal base from below Room 321 of Layer IV (Pl. XXXIX, 7). In the previous season two fragments, one of a bowl with the base broken off, the other of a pedestal, had been found at about the level of Layer V (*Annals*, 1935, Pls. XXXVI, 4 ; XXXVII, 6).

In the fragment of grey ware with two knobs, shown in Pl. XXXVII, 12, it is possible that we may see part of a bowl with ‘ conoid projections ’ like those found in the lower stages of Megiddo (Engberg and Shipton, *op. cit.*, Fig. 6, Type 18) and in Level XV of Beth-shan (*Mus. Journ.*, 1935, Pl. V, 28). The fragment would then be typologically earlier than the rest of the pottery from Layer V, but in any case we cannot be sure that the projections were part of a continuous row as in the Megiddo examples.

Lug-handled Pots. Among the most interesting of our finds are the small round-bottomed pots with lug handles at the junction of the neck and red lattice decoration, known as amphorisci. The one shown in Pl. XXXIX, 6, is from Room 320, in Layer IV; another from the same room resembles *Annals*, 1935, Pl. XXXI, 12, and a third example (Pl. XXXIX, 9) came from Layer V. The amphorisci found in 1935 were low down in the level corresponding to Layer IV. With these may be compared a fragmentary specimen from Level XIII at Beth-shan (*Mus. Journ.*, 1935, Pl. V, 7) and others from caves at Gezer (Macalister, *Gezer*, I, p. 108, fig. 37, and III, Pl. XXVIII, 4). The amphorisci found at Ophel, of better shape and more elaborate decoration, are referred to below in connection with the painted pottery of Layers VI and VII. A single example has been found in the late pre-dynastic cemetery of Abusir el Melek in Egypt; on the other hand, in Cyprus amphorisci appear later—according to Frankfort's conclusions, during the First Intermediate period (between the Old and the Middle Kingdoms) towards the end of the third millennium, indication that the type persisted somewhere for a long time, presumably in Palestine and Syria (Frankfort, *Studies in Early Pottery*, II, p. 82).

Jugs and Juglets. Jugs are not common in Layers IV and V; from the latter came an example of the type illustrated in *Annals*, 1935, Pl. XXXI, 30, and a base fragment like that of no. 23 in the same plate.

One juglet from Layer IV had a slight stump base, approximating to a type found in Tomb A (*Annals*, XIX, Pl. II, 14), and was covered with a red slip, vertically burnished. The more or less round-bottomed juglets are represented by Pl. XXXIX, 1. In Pl. XXXIX, 13, we should note the presence of a double-strand loop handle or a small lug handle in addition (cf. Pl. XXXVI, 4). At Aï the excavators have recorded that small ‘ Oenochoae ’ with rounded bases, and often with double-strand handles, are common (*Syria*, 1935, p. 343).

Jars. With reference to the burnished jar drawn on Pl. XXXIX, 2, we should record the fact that at Beth-shan a rim of the same type has been found in Level XIV, as well as the one from Level XV illustrated in *Mus. Journ.*, 1935, Pl. IV, 26. Most of the numerous fragments of rims found in Layers IV and V were of everted form, like those reproduced in *Annals*, 1935, Pl. XXVIII; many of them were noted as resembling *ibid.*, Pl. XL, 6, which is evidently a type common in the E.B. Age. Other examples were like *ibid.*, Pls. XXX, 3, XXXVII, 18, and XXXVIII, 8.

Fragments of jars decorated with red or orange were much less common than in the lowest E.B.A. layers, though some were recorded from still higher levels (cf. *Annals*, 1935, Pl. XXVIII, 11, from Room 109). Many of the sherds had plain surfaces, some had traces of white slip, and raised bands with finger impressions were not uncommon. A fragment with combing on its surface (Pl. XXXVIII, 10) was exceptional.

Thumb handles, which do not seem to have been found at any higher levels, were less common than in Layer VI. Four (including the form Pl. XXXVII, 15, and fragments) were recorded from Layer V, three from Layer IV, of which one was like *Annals*, 1935, Pl. XXXI, 24. These handles doubtless originated in a form of filter spout; adapted only for pouring liquid into, not out of, the jar (so Macalister, *Gezer*, II, pp. 129 and 153).

Hole-mouth Pot Rims were common throughout the excavations but they proved of small value for stratification as similar types are to be found at very different levels. In addition to those illustrated on Pl. XXXVII, we have noted a number of thickened rims with the raised band decoration that is seen in the *Annals*, 1935, Pls. XXVIII, 26; XXX, 2; and XXXII, 1. Analogies were also found with Pls. XXXVII, 2 and XXXVIII, 9 in Layer IV; with Pl. XXVIII, 2 in Layer V; and with Pls. XXX, 11 and XXXVII, 3 in both layers. The exterior surface sometimes showed traces of a thick coating of white; Pl. XXXVIII, 5 is an instance of painted decoration and shows the slightly thickened rim, tapering to a point, which was noted as characteristic of Layer V (cf. Pl. B 17). The shape of a complete pot is shown in *Annals*, 1935, Pl. XXXI, 21; there does not seem to be any evidence of the round-bottomed type found at Stages I-III at Megiddo.

The position of the small ledge handle seen in Pl. XXXVII is paralleled in Level XIV at Beth-shan. Exceptional forms of pierced handles are illustrated in Pl. XXXVII, 9, 16, and 17.

Spouts were not of frequent occurrence in Layers IV and V, being found only on hole-mouth pots or bowls. (The spout included in Pl. XXXVII, no 4, was found below the floor level of Layer V and belongs to VI.) The small specimen, Pl. XXXVII, 3, has traces of the red line decoration which continued into the period of Tomb A. (*Annals*, XIX, Pls. VIII and XXVIII, 5.)

LAYERS VI and VII. These two layers can conveniently be grouped together as their contents were very uniform, comprising the earliest wares of the Bronze Age. In Layer VII the E.B.A. pottery was intermixed with the chalcolithic-neolithic, but, as a result of this season's work, the types are clearly distinguishable. Some of the rooms in the eastern half of the excavated area lay close to the surface and in these there was an admixture of later wares, but this fact does not affect any of the objects illustrated except perhaps the twin bowls, Pl. XXXVI, 23, and the thumb handle, Pl. XXXV, 15, both from Room 269 ; the finds from Room 360, also, are not all free from suspicion.

Painted Decoration. Layers VI and VII are much richer than the levels above in painted pottery. The most distinctive decoration consists of carmine red, brown or black parallel lines, forming bands which run diagonally to the axis of the vase and meet one another at an angle. This sort of painted pottery has been found at Aï, Gezer and Ophel, though not at the more northerly sites of Beth-shan and Megiddo ; examples from the previous season at Jericho are illustrated in *Annals*, 1935, Pls. XXXVI, 9 and 18 ; XXXVIII, 22 and 23.

At Ophel this decorated ware was found in a tomb deposit described by Père Vincent (H. V., *Jérusalem sous terre*, pp. 28 and 31, Pls. IX and X). The finds include a bowl with two holes near the rim and decoration on the inside, as in our Pl. XXXIV, 4 (cf. *Annals*, 1935, Pls. XXXVI, 18 ; XXXVIII, 23), as well as amphorisci with horizontal lines on the neck, like those on the fragment in Pl. XXXIV, 7. The interest of these lies in the fact that an amphoriscus from the Abusir-el-Malek cemetery (which is much closer in type to the Ophel specimens than to those of our Layers IV and V) can be dated to the late pre-dynastic period.[1] It would be unreasonable to attach great weight to this parallel, but we may grant that it lends some support to the view that the beginning of the E.B.A. in Palestine and that of the First Dynasty are not far removed in time.

The decorated pottery of this type from Cave 2, I, at Gezer includes two straight-sided bowls like Pl. XXXIV, 4, on one of which are undulating lines such as are characteristic of the examples from Ophel. This pottery is assigned to the 'First Semitic Period,' as having been found in the 'Crematorium,' or 'Pre-Semitic' deposit (*Gezer*, II, Fig. 305 on p. 135, the late in Figs. 316 and 317 on pp. 153 f., from which it appears clear that both are phases of a single E.B.A. culture, with no trace of the neolithic types of Jericho. (We may compare the round-bottomed jug, Fig. 305 (1), with our Pl. XXXVI, 21, and the setting of ledge handles beneath horizontal loop handles in Fig. 305 (5) with *Annals*, 1935, Pl. XXXVI, 17, observing also that *ibid.*, Pl. XXXIX, 15, which resembles Fig. 305 (6), illustrates a pot found in Room 188, where neolithic-chalcolithic and E.B.A. wares were mingled.

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[1] A. Scharff, *Vorgesch. Gräberfeld von Abusir el Meleq*, p. 29, Pl. 13 (no. 59 from Tomb 1019). It would seem that one jar (no. 140 on p. 33) from the same tomb is to be assigned to S.D. 71 and the ledge-handled jar with net decoration to S.D. 71-75 or 75-79 (cf. p. 19, nos. 21 and 22).

Various other types of painted decoration are incidentally referred to in the following paragraphs.

Dishes and Bowls. The two dishes on Pl. XXXV, 8 and 9, have already been noted as probably belonging to Layer V. This applies equally to the burnished bowl with a lug handle (Pl. XXXVI, 6) from the same Room 360.

Bowls of various forms were extremely common in Layers VI and VII, the slightly incurving rims of the deep bowls (Pls. XXXV, 5, and XXXIV, 13) bear a close resemblance to fragments (alas, unpublished) from Level XV at Beth-shan, of which one has a pointed protuberance just below the curve of the rim, like Pl. XXXIV, 13.

More or less hemispherical bowls like Pl. XXXVI, 7-10, 13 and 14, occurred in great numbers, especially perhaps in Layer VII. Almost every fragment showed traces of blackening at the rim, so there can be no doubt that the excavators of Aï are right in believing that bowls of this shape were used as lamps. This adds interest to the fact that at Gezer about fifty similar bowls (or ‘ saucers ’) were found in the deposit containing the painted pottery in Cave 2, I (cf. *Gezer*, II, Fig. 316, 6, 11 and 16).

For the shape of the small bowl, Pl. XXXVI, 19, we have a fairly close parallel from Beth-shan (*Mus. Journ.*, 1935, Pl. III, 11), found at Level XVI in association with types of pottery older than our E.B.A. It is therefore worth noting that in Room 393, even at the comparatively high level where our bowl was found, there was a preponderance of neolithic-chalcolithic wares.

We have already dealt with the type of decoration on the vases seen in Pl. XXXIV, 1 and 2. Similar shapes, approximating to hole-mouth pots, are fairly common ; among the finds from Layer VI we should include the spout fragment shown in Pl. XXXVII, 4, from below Room 344. Spouts like those in *Annals*, 1935, Pls. XXIX, 9, and XXXVII, 13, are recorded in Layers VI and VII, and we may assume that the spout shown in *ibid.*, Pl. XLII, 15, can properly be assigned to the E.B.A.

A number of lug handles were scattered about in Layer VII which might have come from bowls like the one shown in Pl. XXXIV, 9. The lattice pattern appears again in Pl. XXXIV, 11, at the bottom of a bowl. A different type of painted decoration consists of red lines radiating from the bottom towards the rim of the bowl, and this is found on both exterior and interior, as in *Annals*, 1935, Pl. XXXVIII, 16 (with which we may compare two pots, *ibid.*, Pl. XXXVI, 1 and 2).

Lug-handled Bottles and Pots, with the handles at the junction of neck and body, are illustrated on Pl. XXXVI, where we may observe the large proportion of rounded bases. The painted decoration (*vide* Pl. XXXIV, 5-8) is generally of the same character as that of the bowls which we have cited above ; the combination of wavy lines seen on the amphorisci from Ophel does not seem to be known at Jericho. Another form of decoration which was observed in Layer VI, on fragments of bottles or small jars, consisted of panels filled in with lattice pattern of red lines on a white slip, with a vertical line between the panels ; the same scheme appears on the twin bottles illustrated in *Jérusalem sous terre*, Pl. IX, 2.

The pattern burnishing of the bottle shown in Pl. XXXVI, 1, has its counterpart at Megiddo, Type 28 F from Stage V. A fragment of lattice burnishing, attached to a handle, was noticed in 1935 as low down as the circular building numbered 194 in Layer VII.

Jugs with loop handles were not very common. The decorated example shown in Pl. XXXVI, 4, has a lug handle in addition, like one from Aï (*Syria*, 1935, Pl. LVIII, 50). The rounded bottom is seen also in Pl. XXXVI, 17 and 21, and we may observe how uniformly the handle rises slightly above the rim in each of these, as well as in Pl. XXXVI, 20, and in a number of handle fragments noted as resembling *Annals*, 1935, Pl. XXIX, 3. The handle seen in Pl. XXXV, 1, is singular in shape, though double-strand handles are by no means unknown in the E.B.A. and are apparently fairly common at Aï.

Jars. Two large jar fragments (Pl. XXXIV, 19 and 21), with finger impressions round the tops of the rims, might, but for their fabric, have been included amongst the neolithic-chalcolithic pottery. The former, with these impressed bands on the shoulder, recalls an unusual type from Level XVI at Beth-shan (*Mus. Journ.*, 1935, Pl. I, 3).

Upright jar-necks were noted, but everted forms, like Pl. XXXIV, 12, or the variants shown in *Annals*, 1935, Pls. XL, 6; XLII, 10, 11 and 12, were those most commonly found; they are quite as much E.B.A. types as neolithic, and examples of them did in fact occur in Level XV at Beth-shan, though there the heavier 'rail' rim, resembling our Pl. XXXV, 6, was much more common. At Jericho the rail rim is distinctly rare, only five examples having been noted in the 1936 season, all from Layers VI and VII, and the same number in 1935, mainly from the E.B.A. levels. This is noteworthy because at Beth-shan it is the prevailing type in Levels XIII and XIV as well as in XV, and its range at Megiddo is from Stages III to V. The 'grain-wash' surface decoration is likewise almost unknown at Jericho.

The jars of Layers VI and VII were very frequently covered with a thick white slip and adorned with lines of red or orange paint; as we have already observed, this treatment of the surface became progressively rarer at the higher levels. Examples are seen in *Annals*, 1935, Pl. XXXVI, 10 and 11, but sherds were more often found with only vertical lines of paint.

Combed decoration (Pl. XXXV, 19) was seldom found, but on the other hand there were numberless sherds on which appeared a raised ridge or a band with a rope pattern formed by finger-impressions or by diagonal nicks. In Pl. XXXIV, 20, an unusually heavy band appears to be set at the junction of a pedestal base.

Thumb handles occurred more often in Layer VI than elsewhere.

Hole-mouth Pots, though very numerous in Layers VI and VII, do not call for much remark. An impressed band near the rim was a common feature; in Pl. XXXIV, 16, the band appears to assume a snake-like form. As a rule there was some thickening or shaping of the rim; the plain form seen in Pl. XXXV, 22, seems rather to carry on the tradition of the neolithic-chalcolithic period. In Pl. XXXV, 2, we see a fragment of a hole-mouth pot with a handle arching over it.

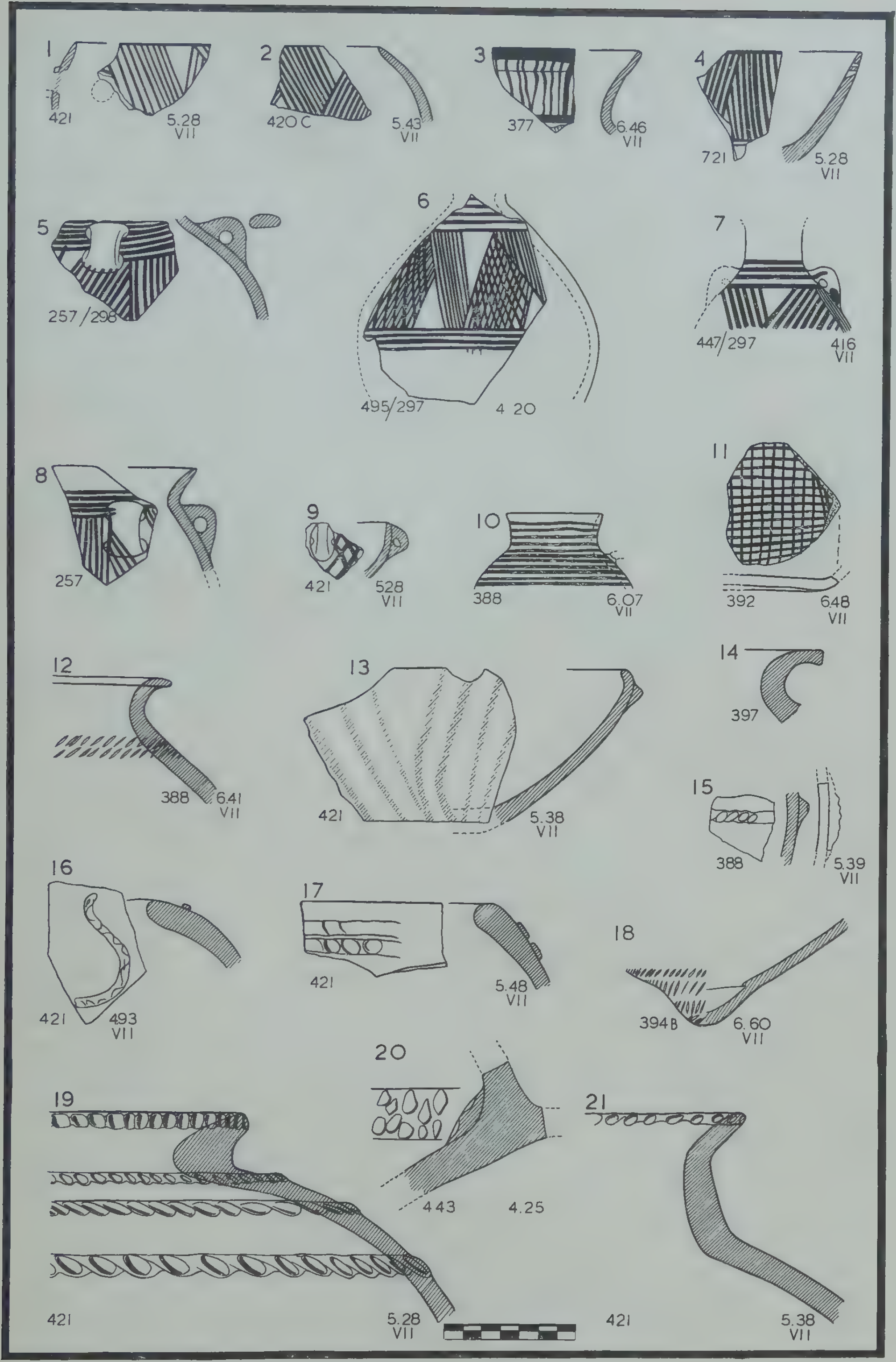
In conclusion, we would call attention to the curious base shown in Pl. XXXIV, 18, which bears some resemblance to that of a vase published by Père Mallon in *Teleilat Ghassul*, I, Pl. 45, 1.

G. M. FitzGerald.

JERICHO, 1936.

PLATE XXXIV. DECORATED POTTERY OF E.B.A. i.

No.		
1.	Lt. brown ware; slip-sm. ext. dec. red lines.	P.421.
2.	Reddish-brown ware; slip-sm. ext.; dec. red lines.	420C.
3.	Brown horiz. bnd. int.; reddish-brown bnd. ext.; 2 pierced holes.	377.
4.	Lt. brown ware; creamy slip-sm. int. and ext.; dec. red lines ext.	421.
5.	Reddish-brown ware; wet-sm. dec. red lines ext.	257/298.
6.	Lt. brown ware; slip-sm.; dec. red lines.	495/297.
7.	Lt. brown ware, few grits; dec. red ext.	447/297.
8.	Lt. brown ware; slip-sm. ext. with red lines.	257.
9.	Lt. brown ware; dec. red ext.; lt. red slip. int.	421.
10.	Lt. brown ware; dec. red lines.	388.
11.	Lt. brown ware, gritty; partly greyish; dec. red int.	392.
12.	Lt. brown surfaces, grey core; wet-sm.; dec. notches.	388.
13.	Reddish-brown ware; slip-sm.; dec. red int. and ext.	421.
16.	Brown ware; grey core; silica grits; wet-sm.; fire blackened; dec. modelled snake.	421.
17.	Brown-grey ware, gritty; dec. two raised bands.	421.
18.	Lt. brown ext.; grey int.; small grits; wet-sm.	394B.
19.	Reddish-brown ware, small white grits; wet-sm.; dec. indented pattern.	421.
20.	Brown ware, very gritty; slightly red slip-sm. ext.; slip-sm. blackened int.; dec. raised band with notches.	443.
21.	Lt. brown ware, gritty; wet-sm.	421.

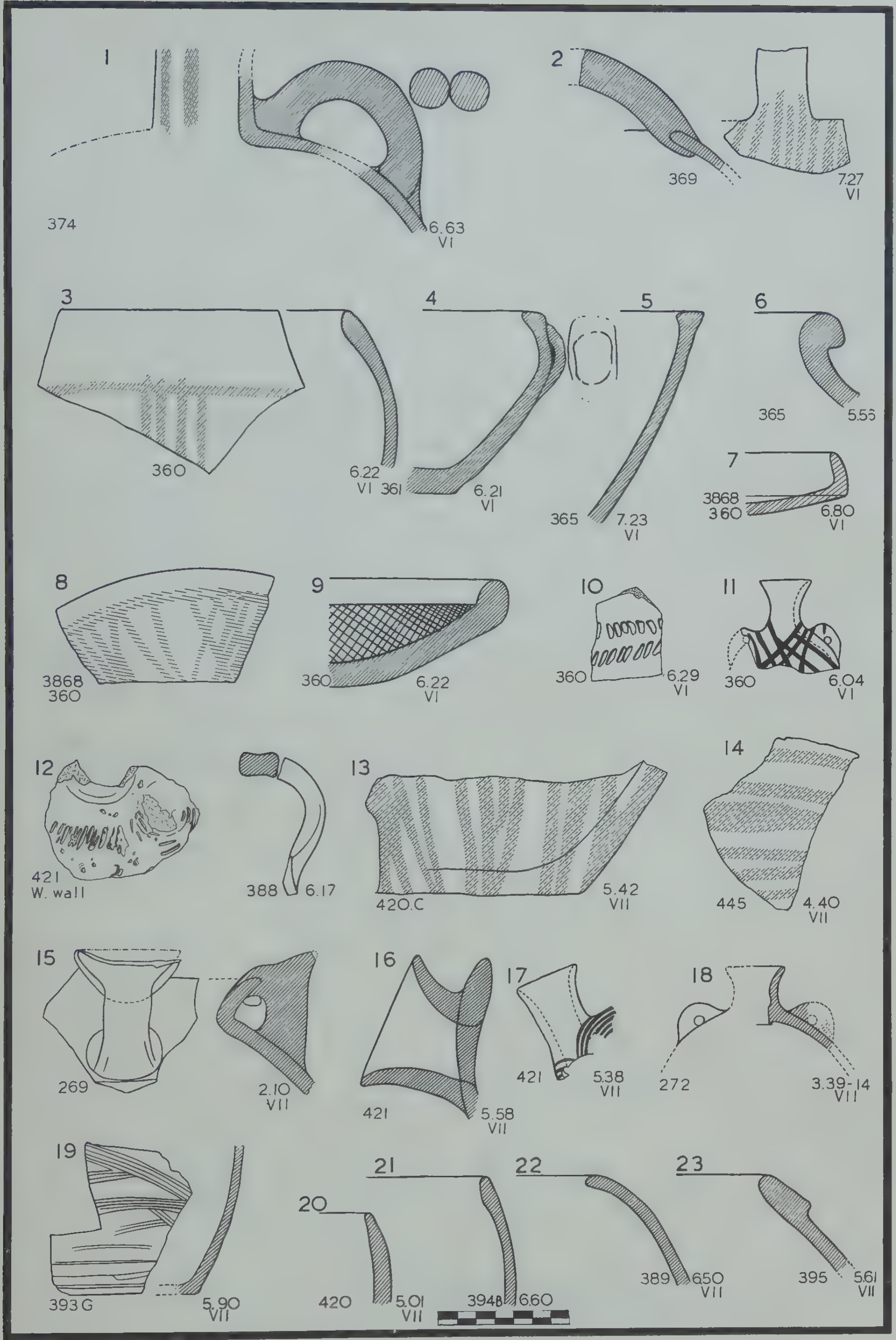


Jericho, 1936. Pottery of E.B.A.i. Layer VII Decoration.

JERICHO, 1936.

PLATE XXXV. POTTERY OF EARLY BRONZE AGE i. LAYERS VI AND VII HANDLES, SPOUTS, Etc.

No.			
1.	Greyish-brown ware, fine grits; slip-sm. dec. brown.		374.
2.	Lt. brown ware; dec. red over white slip-sm. ext.		369.
3.	Reddish-brown ware, small grits; grey core; dec. red over red slip-sm. ext.		360.
4.	Brown ware, partly greyish; roughly slip-sm. crudely made.		361.
5.	Lt. brown ware, small grits; roughly slip-sm. with thick coat of lime ext.		365.
6.	Lt. brown ware, gritty; traces brownish slip-sm. ext.		365.
7.	Grey ware, mixed grit; red slip with dark streaks.		360.
8.	Lustre ware; grey core; dec. brown lines int.	3868.	360.
9.	Reddish-brown ware, fine grits; greyish-brown core; criss-cross bnd. int.; horiz. bnd. on rim and ext.		360.
10.	Grey int.; brown ext.; wet-sm.; dec. notches.		360.
11.	Lt. brown ware, fine grits; dec. red ext.		360.
12.	Brownish ware, gritty; very pocked; W. wall.		421.
13.	Red painted dec. over white wash ext. sides and bottom; friable.		420C.
14.	Orange painted dec. over white wash, crumbling.		445.
15.	Lt. brown ware; dark brown slip-sm. ext.		269.
16.	Brown ware, grey core; wet-sm.		421.
18.	Lt. brown ware; wet-sm.		272.
19.	Brown ware, gritty; combed ext. drawing half-scale.		393G.
21.	Lt. grey ware, very gritty; lt. brown ext.; wet-sm.		394B.
22.	Brown ware, silica grits, wet-sm.; fire blackened.		389.
23.	Brown ware, silica grits, wet-sm.; fire blackened, well finished.		395.



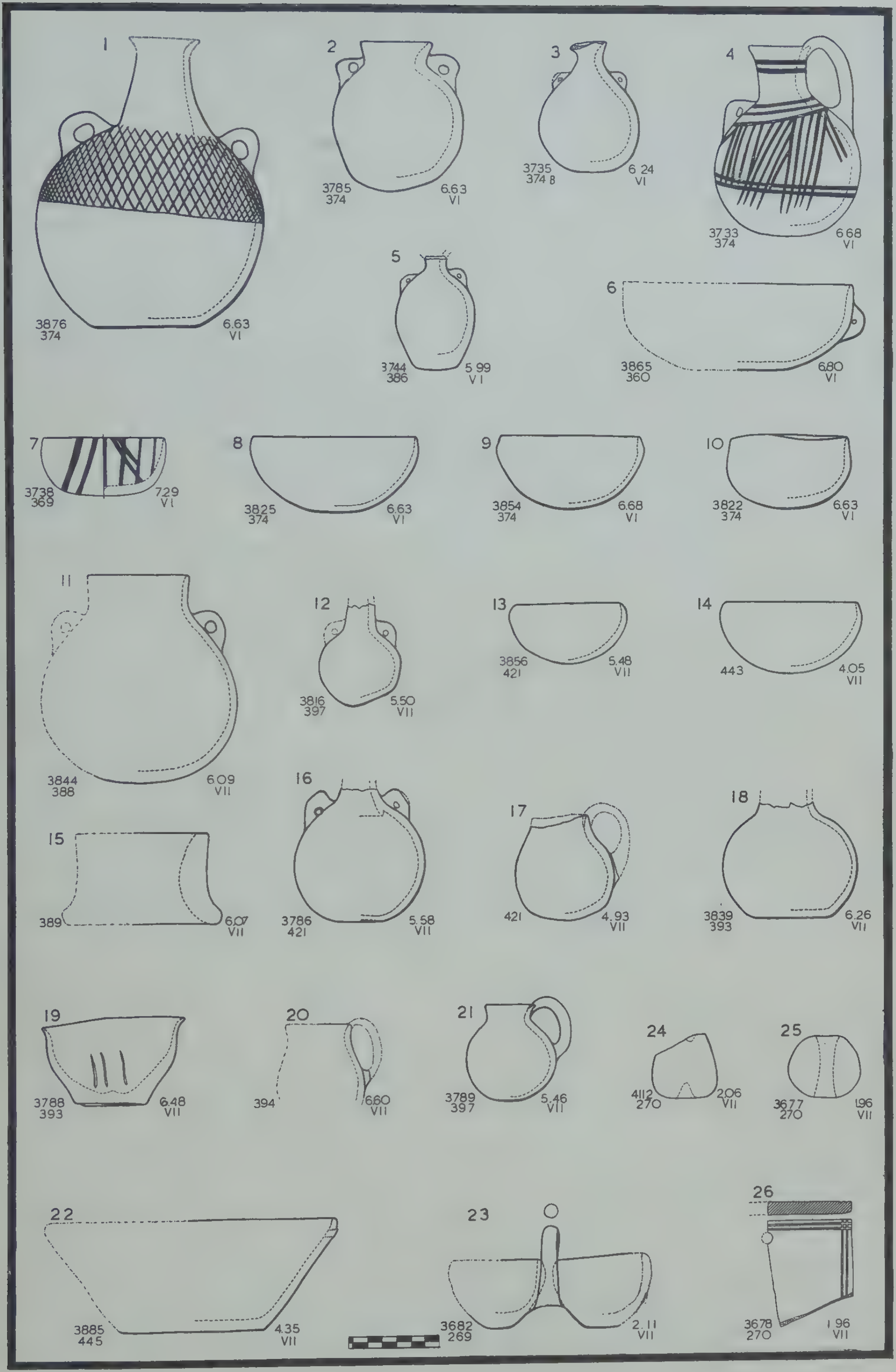
JERICHO, 1936. POTTERY OF E.B.A.I. LAYERS VI AND VII. HANDLES, SPOUTS ETC.

JERICHO, 1936.

PLATE XXXVI. POTTERY VESSELS AND STONE OBJECTS OF E.B. i LAYERS VI AND VII.

No.			
1.	Grey ware; lower half irreg. horiz. bnd.; remainder diag. bnd.	3876.	374.
2.	Grey-brown ware; few large and small grits; wet-sm.; fire blackened.	3785.	374.
3.	Grey ware; wet-sm.	3735.	374B.
4.	Brown ware; dec. red lines.	3733.	374.
5.	Dark grey ware; slip-sm.	3744.	386.
6.	Lt. brown ware; slip-sm. int.; red slip-sm. irreg. bnd. ext.	3865.	360.
7.	Lt. brown ware, few large grits; wet-sm.; dec. red lines int. and ext.	3738.	369.
8.	Brown ware, small grits; wet-sm.	3825.	374.
9.	Grey-brown ware; extra fine grits; slip-sm.	3854.	374.
10.	Drab ware; wet-sm.; *cf.* 1935, XXXVI, 12.	3822.	374.
11.	Brown-grey ware, very gritty; wet-sm.	3844.	388.
12.	Drab ware; red slip-sm. ext.; one handle broken off.	3816.	397.
13.	Lt. red ware; brown core; extra-fine grits; wet sm.; traces of smoke blackening on rim.	3856.	421.
14.	Lt. brown ware, few fine grits; wet-sm.; smoke blackened at one spot on rim.		443.
15.	Brown ware, small grits; wet-sm.		389.
16.	Lt. grey int.; lt. brown ext.; few small grits; wet-sm.	3786.	421.
17.	Lt. brown ware; grey core; extra-fine grits; worn surface.		421.
18.	Lt. brown ware; red slip-sm. ext.; fragile.	3830.	393.
19.	Brown ware, small grits; wet-sm. int. and ext.	3788.	393.
20.	Lt. brown ware; grey core; wet-sm.		394.
21.	Brown-grey ware, patchy due to irreg. firing; gritty; wet-sm.	3789.	397.
22.	Lt. brown ware, large and small grits; wet-sm.; 2 pierced holes.	3885.	445.
23.	Drab ware; wet-sm.	3682.	269.
24.	Alabaster mace head not pierced through; broken.	4112.	270.
25.	Stone mace head.	3677.	270.
26.	Frag. of palette of black stone; two white incised lines; pierced.	3678.	270.

PLATE XXXVI

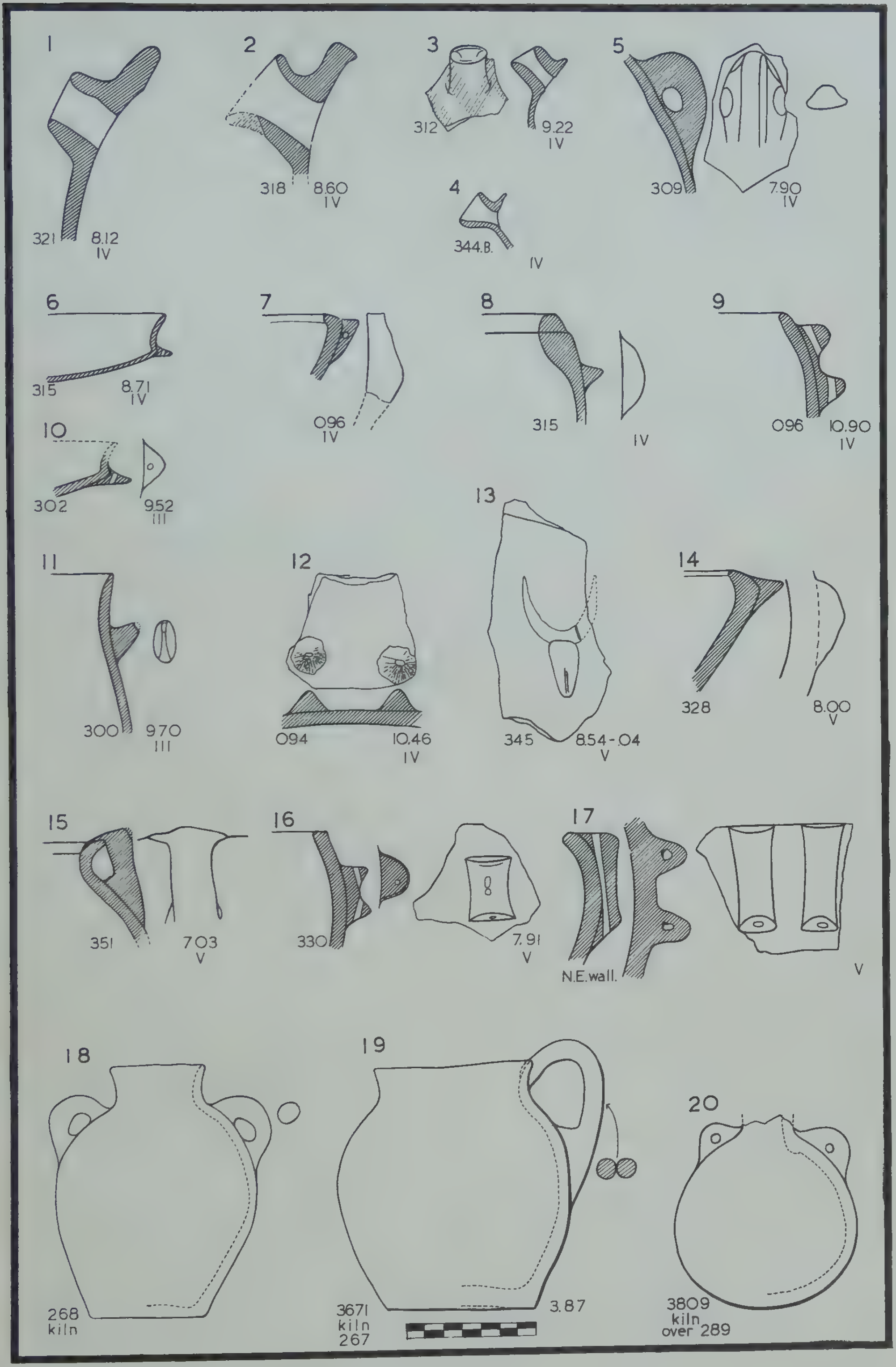


JERICHO, 1936. POTTERY VESSELS AND STONE OBJECTS OF E.B A.I LAYERS VI AND VII.

JERICHO, 1936.

PLATE XXXVII. POTTERY OF E.B.A. ii. LAYERS IV AND V, WITH TWO FRAGMENTS FROM III AND THREE POTS FROM KILNS FOR COMPARISON.

No.		
1.	Brown ware, fine grits; wet-sm.; rim fire blackened.	321.
2.	Brown ware, small white and grey grits; red slip-sm. ext.	318.
3.	Brown ware, fine white grits; dec. red ext.	312.
4.	Reddish-brown ware; lt. brown core; dec. red ext.	344B.
5.	Lt. brown ware; red slip-sm.; vert. bnd. ext.	309.
6.	Brown ware; slip-sm. int.; irreg. bnd. ext.; pierced ledge handle.	315.
7.	Lt. brown ware; fine grits; traces red slip-sm. int.; lt. orange-brown slip horiz. bnd. ext.	096.
8.	Lt. brown surfaces, grey core; wet-sm.; small ledge handle.	315.
9.	Brown ware, fine grey grits; red slip-sm.; vert. bnd. ext.	096.
10.	Dark grey ware; slip-sm., dully bnd. int. and ext.	302.
11.	Lt. brown ware, fine grits; creamy slip-sm. ext.	300.
12.	Grey ware; wet-sm.	094.
13.	Lt. brown ware, gritty; dec. head of ox in relief.	3746. 345.
14.	Reddish-brown ware, fine grits; wet-sm.; small ledge handle.	328.
15.	Brown ware; grey core; traces red slip ext.	351.
16	Brown ware, fine grits; red slip-sm. and polished ext.	330.
17.	Lt. brown ware, grey grits; reddish-brown slip-sm. int. and ext.	N.E. wall.
18.	Brown and grey due to irreg. firing; wet-sm.; hand-made; asymmetrical.	Kiln. 268.
19.	Wet-sm.; partly fire blackened.	3671. Kiln. 267.
20.	Lt. brown ware, fine grits; slip-sm.	3809. Kiln, over 298.



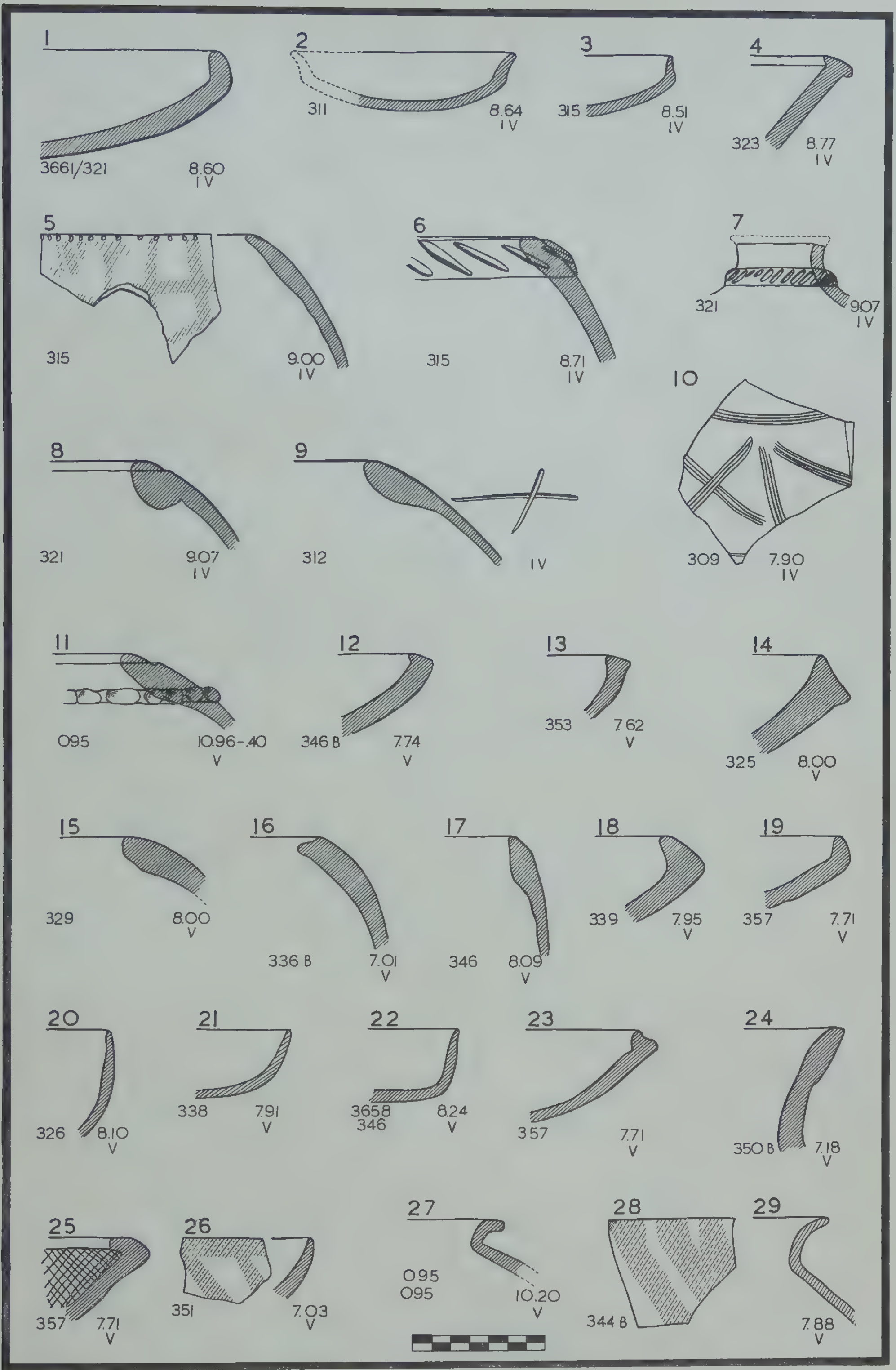
Jericho. 1936 Pottery of E B.A.ii. Layers III, IV and V. Handles, spouts etc. and three pottery vessels from kilns for comparison.

JERICHO, 1936.

PLATE XXXVIII. POTTERY OF E.B. ii. LAYERS IV AND V.

RIMS.

No.		
1.	Brown ware; grey core; fine grits; brown slip-sm. int. and ext.; polished.	321.
2.	Brown ware; wet-sm.	311.
3.	Brown ware; red slip-sm. and bnd. int.; slip-sm. ext.	315.
4.	Brown ware, large grits; wet-sm.	323.
5.	Lt. brown ware, small grey grits; dec. red and notches ext; hand-made.	315.
6.	Lt. brown ware; wet-sm.; dec. raised bands with incised nicks.	315.
7.	Lt. brown ware, gritty; wet-sm.; dec. raised band with notches.	321.
8.	Brown ware, silica grits; wet-sm.; fire blackened; hand-made	321.
9.	Brown ware; silica grits; wet-sm.; blackened; incised dec. shoulder.	312.
10.	Brown ware; wet-sm.; dec. with combing.	309.
11.	Brown ware; gritty; dec. raised band indented; hand-made.	095.
12.	Brown ware, fine grits; brown slip-sm.; irreg. horiz. bnd. int. and ext.	346.
13.	Brown ware, fine grits; cream slip-sm. int.; red slip-sm. irreg. horiz. bnd. ext. and over rim.	353.
14.	Brown ware, fine grits; slip-sm. int.; red slip-sm. irreg. bnd. ext.	325.
15.	Greyish brown ware; small grits; reddish-brown slip-sm. ext. and over rim.	329.
16.	Grey ware, silica grits; fire blackened.	336B.
17.	Lt. brown ware; wet-sm.	346.
18.	Lt. brown ware; lt. grey core; fine grits; red slip-sm. horiz. bnd. int.; slip-sm. horiz. bnd. ext.	339.
19.	Brown ware; grey core; brown slip-sm. vert. bnd. int.; red slip-sm. ext.	357.
20.	Lt. brown ware, fine grits; slip-sm. int.; red slip-sm. irreg. bnd. ext.	326.
21.	Brown ware; red slip-sm. dully bnd. ext.; slip-sm. int.	338.
22.	Brown ware, fine grits; slip-sm. int.; red slip-sm. polished ext.	3654. 346.
23.	Brown ware, few small grits; red slip-sm. int.; traces of same ext.	357.
24.	Brown ware, gritty; wet-sm.; lime deposit ext.	350B.
25.	Brown ware, small grits; wet-sm. ext.; slip-sm. bnd. int.	357.
26.	Lt. brown ware; small grits; brown slip-sm. int. dec. brown ext.	351.
27.	Brown surface, grey core, small grits; brown slip-sm. ext. and over rim.	095.
28.	Brown ware, small grits; dec. orange brown on white slip-sm. ext.	344B.



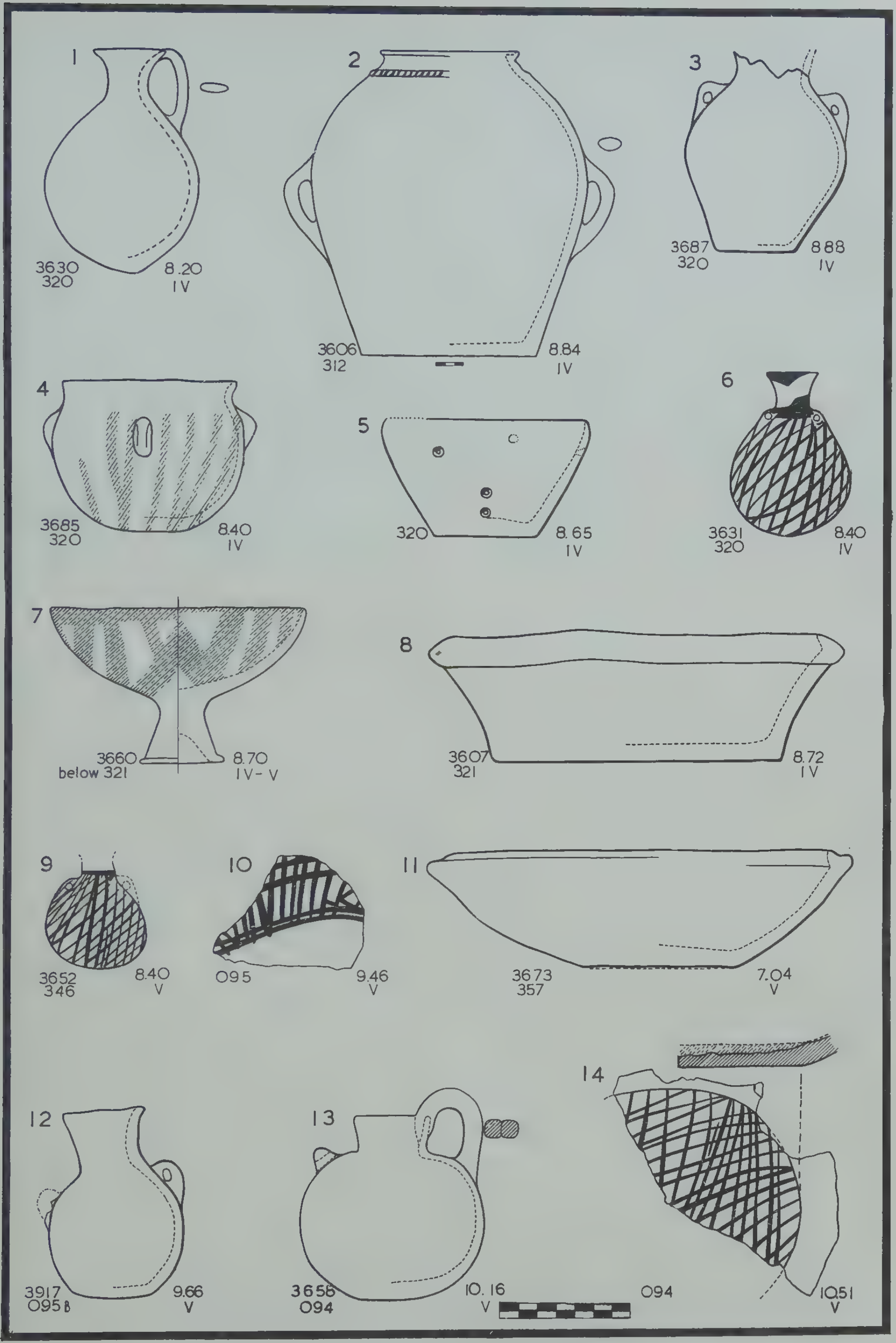
Jericho, 1936. Pottery of E.B.A. ii. Layers IV and V. Rims.

JERICHO, 1936.

PLATE XXXIX. POTTERY VESSELS OF E.B. ii. LAYERS IV AND V.

No.			
1.	Lt. brown ware; wet-sm.	3630.	320.
2.	Brown ware, fine grits; slip-sm.; roughly diag. bnd.; dec. raised band.	3606.	312.
3.	Brown ware, few fine grits; brown slip-sm.; vert. bnd. ext.	3687.	320.
4.	Lt. red ware, fine grits; dec. orange on white slip-sm.	3685.	320.
5.	Reddish-brown ware; small white grits; wet-sm.; four drilled holes.		320.
6.	Lt. brick ware; red painted dec. (see *Annals*, 1935, Plate XXXI, 14).		
7.	Reddish-brown ware; slip-sm.; dec. red. int. and ext. partly broken.	3660.	Below. 321.
8.	Brown ware, large white grits; wet-sm.	3607.	321.
9.	Reddish-brown ware; fine grits; dec. red (*cf.* 1935, Plate XXXI, 12).	3652.	346.
10.	Lt. brown ware; dec. red.		095.
11.	Lt. brown ware; partly grey due to irreg. firing; slip-sm. dully bnd. int. and ext.; bottom chipped off.	3673.	357.
12.	Greyish-brown ware; few grits; wet-sm.	3917.	095B.
13.	Lt. brown ware; small white grits; double vert. handle and horiz. pierced lug.	3658.	094.
14.	Brown ware, fine grey grits; badly-worn int.; red slip-sm. bnd. diamond pattern ext.		094.

PLATE XXXIX



Jericho, 1936. Pottery vessels of E.B.A.ii. Layers IV and V.

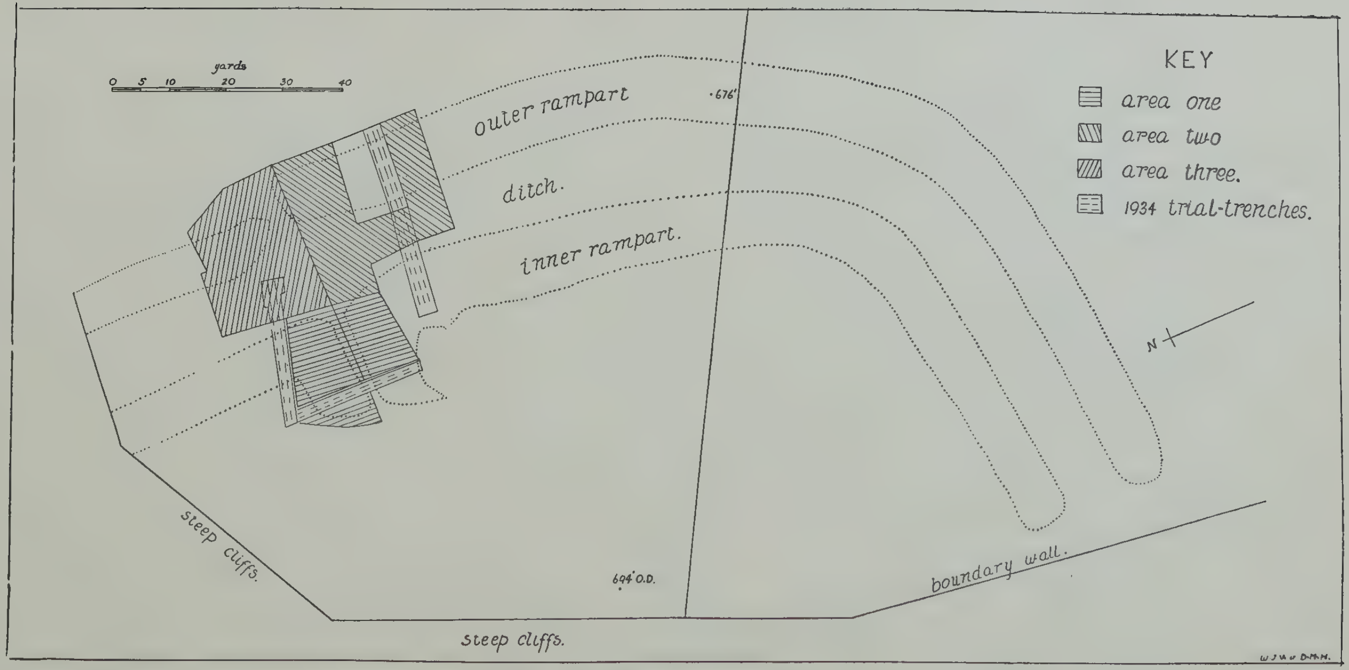


Fig. 1.—MAIDEN CASTLE, BICKERTON.

FURTHER EXCAVATIONS AT MAIDEN CASTLE, BICKERTON, 1935

By W. J. VARLEY

WITH PLATES XLIII-L

Preliminary excavations of the promontory fort at Maiden Castle, Bickerton, were undertaken in the summer of 1934 and were reported upon in Vol. XXII of this Journal (pp. 97-110).

Further excavations in the summer of 1935 aimed at a thorough examination of the entrance to the camp. Fig. 1 shows the area excavated in relation to the plan of the whole camp; Pl. XLIII shows on a larger scale the details of the excavated area.

The work done permits of a detailed description of the ground plan of the entrance, of the structure of the defences comprising that entrance and of an attempt to elucidate the history of those defences. This report will deal with those topics in the order given, and will conclude with a consideration of the relationship between Maiden Castle, Bickerton, and the related earthworks of adjacent parts of Britain.

I. The Ground-Plan of the Entrance

(See Pls. XLIII and L)

The ground-plan of the entrance is relatively simple. It comprises a gap in the outer rampart leading by way of a causeway across the ditch to an inturned entrance through the inner rampart. The latter is defined by ramparts which sweep round from the main inner rampart to converge upon a roadway sixteen feet wide at its mouth but narrowing to eight feet, with an overall length of fifty feet. This roadway was unmetalled, and towards its narrower end it had been defended by a gate eleven feet wide slung between two stout posts recessed within the revetments of the entrance ramparts (see note *d*, Pl. XLIII).

Within the angle formed between the southern entrance rampart and the main inner rampart there was found an occupation floor resting on the original ground level (note *e*, Pl. XLIII and Pl. XLVI). This floor is presumably that of a hut or shelter associated with the entrance,[1] taking the place of the guard-chambers commonly associated with inturned entrances.

Adjacent to the northern entrance rampart near its rounded end calcined bones and charcoal were found lying on the original ground level (note *f*, Pl. XLIII), suggesting that there might have been another occupation floor at this point.

The nature of the entrance through the outer rampart cannot be determined precisely. Its existence may be inferred from the following facts. At a point opposite to the roadway of the inturned entrance there is at present a complete gap through the outer rampart. On each side of this gap there are significant differences in the internal structure of the outer rampart and in the nature of the ditch. Further, opposite to this gap and leading to the inturned entrance, the original builders had left an unexcavated strip forming a causeway.

The original dimensions of this entrance through the outer rampart could not be discovered because that portion of the outer rampart which lies immediately to the north of the gap which now exists (note *k* on Pl. XLIII) had been thrown down and levelled to its footings.

II. The Internal Structure of the Defences, comprising, and adjacent to, the Entrance

(a) *The Entrance and Inner Ramparts.* The entrance and inner ramparts were identical in structure wherever they were examined.

Section *c c′* (see Pls. XLIV and XLVI) may be taken as typical of the structure of the inner and entrance ramparts.

Resting upon a levelled floor of glacial drift, there is a core of sand and carbonised timber[2] arranged in alternate layers. This core now forms a parallelogram ten feet wide and eight feet high. The layers of timber are from six inches to a foot apart, and they consist of large and small branches of oak laid lengthways, crossways and diagonally. On each side of this core there are remains of dry walling. To the north there is a revetment four feet thick at the base, standing some six to seven courses high, now leaning outwards some ten degrees from the vertical. This revetment is faced on the outside but on the inside there are large regular gaps in the stonework into which the timbers of the core run out. On the south side there exist two or three courses of built-stones making a revetment two to three feet thick.

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[1] As at Buckland Rings, Lymington. C. F. C. Hawkes, *Proc. Hants. Field Club*, Vol. XIII, Part 2, pp. 124-164.

[2] The carbonisation is, I think, due to natural causes.

It is quite clear that these remains are all that is left of a rampart which once stood much higher. On each side of the stone revetments there is a considerable amount of fallen stonework. This, together with the outward lean of the whole rampart, suggests that there has been subsidence followed by collapse of the upper portions. There is sufficient debris to suggest that the rampart initially stood at least twelve feet high.

It is quite reasonable to suppose therefore that the entrance and inner ramparts consisted initially of an outer revetment, faced on the outside and standing vertically ; a core of sand and timber, and an inner revetment, making up a structure approximately seventeen feet thick and at least twelve feet high.

(b) *The Outer Rampart and Ditch.* The extant portion of the outer rampart to the north of the entrance is relatively simple in structure. Section PR (Pl. XLV, Fig. 1, and Pl. XLVII) shows the rampart to consist of a sand core thrown up against an outer stone facing wall. This stands several courses high (see Pl. XLVII), and is built so that it has a vertical outer face, a relatively broad top and a narrow base. The core and revetment must have been built at the same time as neither would remain standing if the other were removed. The outer facing wall must have stood higher at one time, for outside it there lies a considerable quantity of debris in which there are many dressed stones comparable with those now to be found in the revetment.

Behind this portion of the rampart there is no real ditch. The glacial drift has been removed to expose the parent Keuper sandstone, the surface of which is considerably weathered, but there has been no attempt to hollow out a ditch comparable with that on the southern side of the entrance.

South of the entrance causeway, previously referred to, the outer rampart is more complex in character. Section ZZ′ (Pls. XLV, Fig. ii, and Pl. XLVIII) shows that it consists of an outer revetment, five feet thick, six to eight courses high, faced on the outside ; a zone six feet thick on the surface, narrowing to five feet at the base, made up of pink rubble into which stones and humus have been thrown, and ending sharply against a zone of sand some sixteen feet thick. All three zones are overlain by a continuous band of humus, the roots of a former vegetation, which in turn is overlain by a foot or so of sand in which large boulders have been placed. This threefold structure of the outer rampart south of the entrance occurred at each point examined and must be regarded as an essential feature of its structure.

The pink rubble has as its matrix puddled clay derived from the local boulder clay. Within this matrix there are lenses of leached sand, boulders and humus, all of them materials which lay close at hand. The lines of deposition of this material curve upwards to the outer revetment and to the inner zone of sand, suggesting that both these existed when the pink rubble zone was added.

The sand core, which forms the rear of the present rampart, is equivalent in character, position and dimensions to the inner sand core of the outer rampart north of the entrance. Its outer slope where it comes into contact with the pink rubble follows the same general curve as that surface of the northern portion of the outer rampart which comes into contact with its outer facing wall. Along this slope the sand is humus-stained as if it had been near to the weather-beaten surface of the rampart, a condition which could not arise in the present circumstances. This slope shows no signs of having been revetted, yet it is difficult to see how fine sand could have retained such a slope long enough for it to become humus-stained unless it possessed some external support.

These considerations suggest that the outer rampart south of the entrance has been reconstructed in the following way. Initially it consisted of a sand core with a simple outer revetment making up a rampart similar to that which now exists to the north of the entrance. At a later time the outer revetment of this simple rampart was pulled down and rebuilt as a thicker, free-sanding wall a few yards further out from its original position. The space between the original core and the rebuilt revetment was filled up with puddled clay, humus and boulders. Over this wider rampart there ultimately grew the vegetation which provided the continuous band of humus previously referred to. Still later, a foot or so of sand and stones was added.

Behind this section of the rampart there exists a ditch of peculiar configuration. Immediately behind the outer rampart and in line with the southern entrance rampart there is a rock-cut hollow sixteen feet square (*h′* on Pl. XLIII). Sixteen feet to the south of this hollow there is another (*h*² on Pl. XLIII), an ellipse with a greater axis of sixteen feet. Between these hollows the ditch is not quarried at all but stops at the glacial drift. The entire length of the ditch south of the entrance is studded with such hollows. The two that were excavated had been made before the outer rampart had collapsed, for debris from this rampart covered the floor of the hollows.

It would appear that these hollows were added to a much shallower ditch which did not penetrate far into the boulder clay. Their purpose must remain obscure, but it may be relevant to point out that they retain considerable quantities of water after a shower and that no other source of water has been discovered within the defences (see Pl. XLIX).

III. The History of the Defences

An attempt must now be made to elucidate the history of the defences so far as that is possible from the evidence provided by the excavations here described.

The initial form of the camp cannot be determined with certainty. The differences in structure between the inner and outer ramparts may imply that they were constructed at different times; in which case it is impossible to say which was built first. At the same time it is clear that the structural differences do not necessarily imply a difference in date—they may be related to a difference in function.

It is possible, however, to surmise at what period the inner and entrance ramparts were built. It has been suggested previously (*vide supra*, p. 102) that the occupation floor found within the angle formed by the inner and southern entrance ramparts is to be regarded as the equivalent of the guard chambers commonly associated with inturned entrances. The relics recovered from this floor, which were effectively sealed by the debris of the collapsed rampart, may be regarded as objects in use at approximately the time when the inner rampart was built. The nature of these objects is such as not to permit of their being closely dated. The single potsherd has no recognisable affinities with any dateable ware. It is, however, of a type not made after the advent of the Romans; indeed, the character of its paste resembles that of the indigenous pottery of the ultimate Bronze Age, but its association with a small piece of iron places it within the Early Iron Age. Mr. Hawkes' statement [1] that it is the sort of crude pottery one would expect to find in use among the Cornavii in the pre-Roman Iron Age is probably all that can be said of it.

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[1] In a letter to the author.

The peculiar structure of the inner and entrance ramparts provides a clue to their date. The peculiarity consists in the use of timber to interbond the stone revetments. Three separate variants of this constructional method have so far been discovered in Great Britain. These are :—

(i) The Murus Gallicus, described by Caesar,[1] in which timber balks laid in layers are carried right out to one face or both faces of the stone revetments.

(ii) The Bickerton method, in which the timber balks are laid in layers but stop one course short of the face of the revetment.

(iii) The method still more recently discovered at Eddisbury,[2] where timber balks laid in puddled clay run out to vertical revetting posts lying behind a narrow stone facing.

(Drawings of these three methods are shown in Fig. 2.)

Examples of the Murus Gallicus occur at Burghead, Abernethy and Forgandenny in Eastern Scotland, and, more dubiously, at Corley near Coventry. The Scottish examples are attributed by Professor Childe to the earliest period of the Early Iron Age in Scotland [3]; Corley is regarded by Mr. Hawkes as belonging to the first half of the first century after Christ.[4] The defences at the Castle Ditch, Eddisbury, were certainly built in the pre-Roman Iron Age. As all the other examples of timber work in the rampart core can be attributed to that period it seems probable that the inner rampart at Maiden Castle, Bickerton, was built at that time—say a generation or so before the Roman conquest.

There is no direct evidence as to when the reconstruction of the outer rampart took place. The absence of occupation material of the later Roman period, such as abounds in the hill-forts of North Wales,[5] together with the fact that the reconstructed rampart incorporates none of those features which are supposed to have been derived from the Romans (and which likewise abound in North Wales),[6] suggests that the reconstruction took place before the advent of the Romans. Since the purpose of this reconstruction was, presumably, to strengthen the defences, it may be suggested that it most probably took place during the period of the Roman advance, A.D. 50-75, when at various places along the Welsh border hill forts were either built or strengthened.[1]

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[1] *De Bell. Gall.*, VII, 23.

[2] Excavations begun in 1936; report not yet published.

[3] V. Gordon Childe, *Prehistory of Scotland*, pp. 193-195.

[4] C. F. C. Hawkes, *Antiquity*, Vol. V, p. 84.

[5] Dr. Willoughby Gardner, *Archaeologia Cambrensis*, 1926, p. 221.

[6] *Ibid.*

There is no evidence for thinking that the defences at Maiden Castle were ever used after the Roman conquest, or that the site was occupied after that time. The collapse of the ramparts, with the exception of one small section, may be attributed to natural causes. The leaching of the boulder clay on which the ramparts rest would be sufficient to produce subsidence and collapse. At one point, however (*k′* on Pl. XLIII), the outer rampart had been thrown down and levelled. This point lies opposite to the entrance roadway where the top surface of the debris which had fallen from the ramparts had been roughly levelled and heavy carts taken over it for a long enough period to result in ruts being worn in the stones. These ruts lead to a network of shallow quarries which have done so much to spoil the interior of the camp. The evidence from last season's excavation of one of these quarries suggests that they might have been made so late as the early seventeenth century.[2] The gap, the cart ruts and the quarrying may well belong to the same period, since when the site has become completely overgrown with heath.

IV. The Relationship of Maiden Castle to the Hill-Forts of adjacent Regions

The occupation material from Maiden Castle, Bickerton, is too scanty to permit of the tracing of its cultural affinities. The structural details of the defences cannot be exactly matched elsewhere. It is true that the inner and entrance ramparts are constructed in a way that is probably related to the 'Murus Gallicus,' but since most of the hill-fort builders of the pre-Roman Iron Age had contacts with Continental Gaul, the home of the Murus Gallicus, it is of little value as a pointer to the cultural affinities or origins of the builders of Maiden Castle.

The most obvious common link between Maiden Castle, Bickerton, and some other hill-forts is its possession of an inturned entrance. Mr. Hawkes[3] and others have drawn attention to the importance of the form of hill-fort entrances, and it is possible to argue that the possession in common of a particular type of entrance may well imply some degree of community of culture. If that were the case it would follow that the distribution of hill-forts with a common type of entrance might be taken as an indication of the spread of the particular culture with which that type of entrance was associated.

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[1] See later, p. 110.
[2] *Annals*, Vol. XXII, p. 107.
[3] *Loc. cit.*, note 7.

Such arguments deserve to be tested. Miss Chitty has most generously undertaken the preparation of the map of the distribution of hill-forts with inturned entrances shown in Fig. 3 (see the special note on p. 111) as a first step in tackling the many problems involved. It has to be admitted immediately that detailed discussion of her map is out of the question, for the simple reason that many of the sites shown on it have never been excavated. At the same time the map permits of the making of certain obvious points which are relevant to this discussion.

In the first place it is clear that the hill-forts with inturned entrances fall into two major geographical groups : one north of the Tyne gap, the other south of a line joining the Mersey and the Humber. Of the former group nothing is known—it is not even certain that they are related to the southern group. The majority of the hill-forts comprising the latter lie west of a line joining the Mersey and Southampton Water, the only considerable extension to the eastwards following the line of the southern Downlands. The southern group form, roughly, an inverted ⊤. The cross extends from Cornwall to Sussex, the stem starts at the lower Severn and, keeping in the main to the Welsh Marshes west of the Severn, reaches to the north coast of Wales. From this stem there are offshoots into Wales (Miss Chitty and Mr. O'Neil propose to deal with these in a forthcoming paper on the Breiddin hill-fort) and along the oölitic escarpment, the Triassic ridges of the Midlands and the South Pennines.

The second point to be made is that the distribution of hill-forts with inturned entrances in South Britain overlaps the distribution of any single Iron Age culture-complex at present recognised. In point of fact it seems to combine the following sub-groups :—

(I) The area dominated exclusively by what Radford has called the South-Western culture,[1] of which the most characteristic feature is probably the pottery with elaborate incised curvilinear designs best known from Glastonbury Lake village.[2] Pottery of this type is directly

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[1] C. A. Ralegh Radford, *Homenagem a Martins Sarmento*, pp. 320-331.
[2] Bulleid and Gray, *Glastonbury Lake Village.*

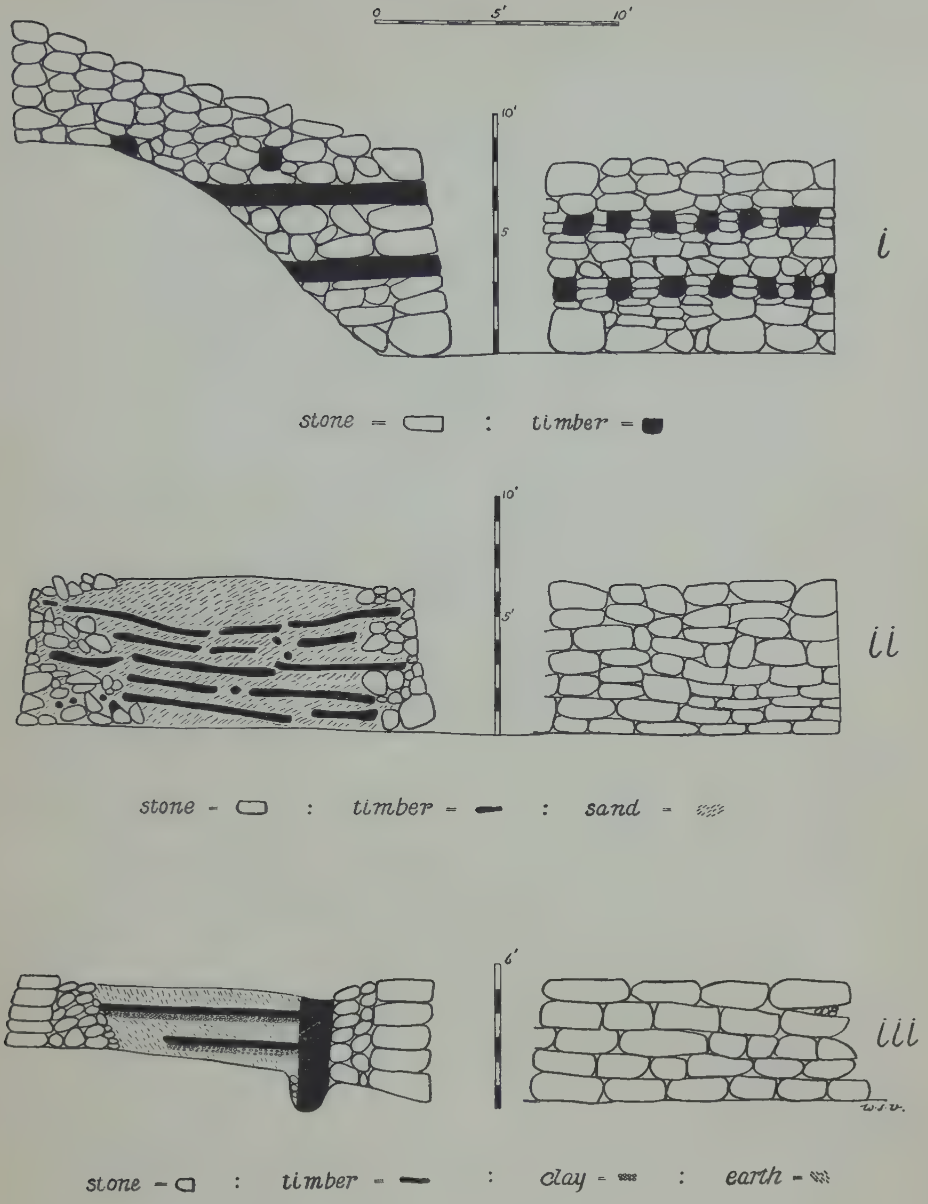
0
5'
10'
10'
5
i
stone = ▭ : timber = ■
10'
5'
ii
stone - ▭ : timber = ▬ : sand = ▨
6'
iii
w.s.v.
stone - ▭ : timber = ▬ : clay = ▨ : earth - ▨

Fig. 2.— i. Abernethy (after P.S.A.S. xxxiii.).
ii. Bickerton.
iii. Eddisbury.

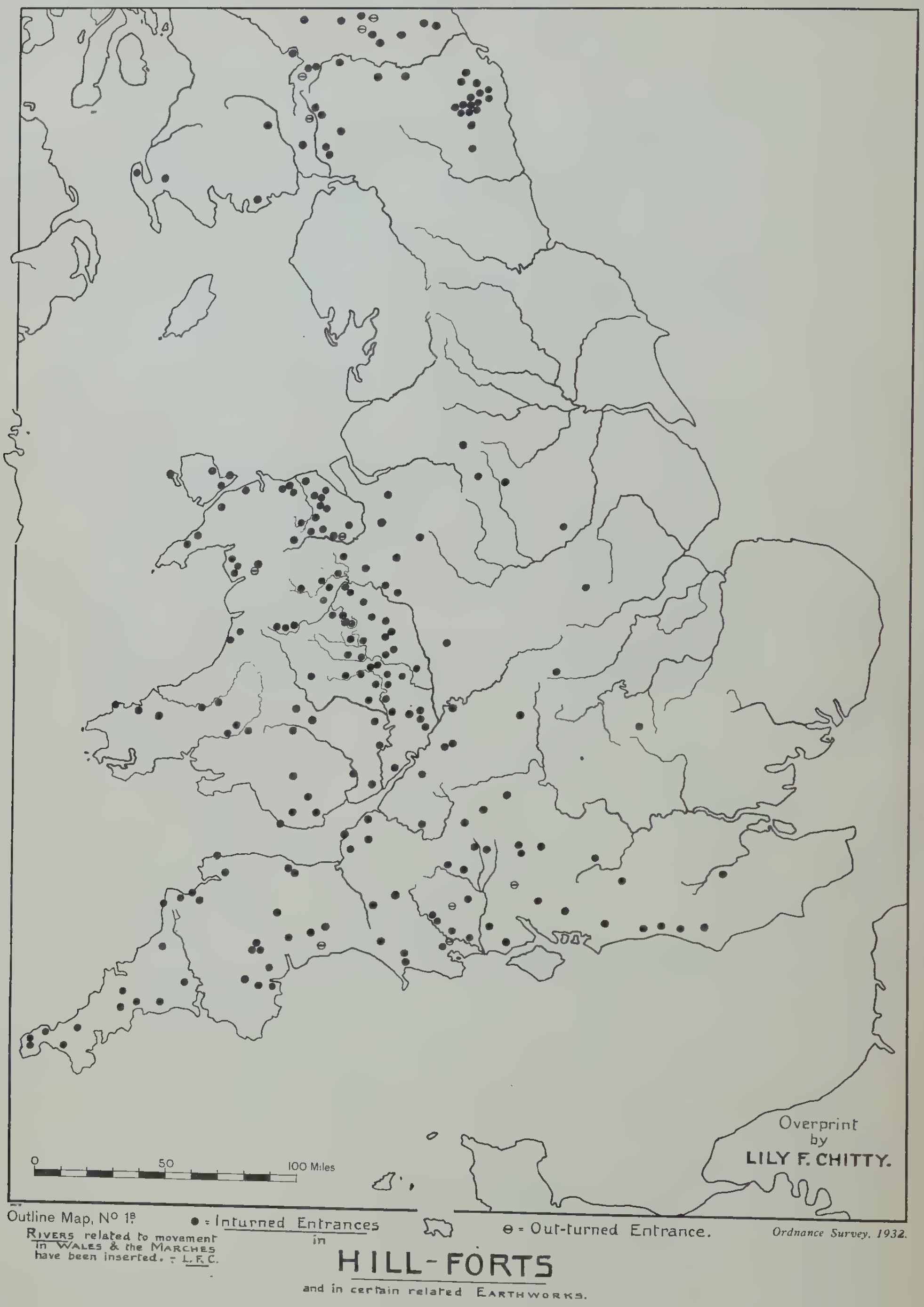

Fig. 3.—DISTRIBUTION OF HILL-FORTS.

associated with hill-forts with inturned entrances, bi-vallate or multivallate defences and dry-stone revetments in Cornwall (Chun Castle [1] and Carn Brea [2]) and North Somerset.[3] There can be little doubt that in the south-west peninsula the hill-fort with inturned entrance was introduced by the people who brought the South-Western culture to this country.

(II) The Lower Severn area where hill-forts were erected by people who possessed the South-Western culture but were much later affected by Belgic influences. Lydney [4] and Llanmelin [5] may be taken as the type-stations here; and according to the evidence they have provided, the hill-fort with inturned entrance was introduced here by 'South-Westerners,' though at a later date than in Cornwall.

(III) Wessex, where South-Western influences mingled with those derived from earlier South-Eastern cultures (the A (i) and A (ii) of Dr. Wheeler) to form a hybrid culture (AB) which remained dominant until the Belgic Invasions. It would appear that at Maiden Castle, Dorchester, the inturned entrance was introduced by the bringers of the South-Eastern cultures, in the form of a timber palisaded entrance which was later transformed into a stone lined entrance by the immigrant 'South-Westerners.' [6]

(IV) East Hants and Sussex. Here, from the evidence provided by St. Catharine's Hill,[7] the Trundle,[8] the Caburn [9] and Cissbury,[10] the primary culture seems to have been that of the Iron Age A, mingled with slight South-Western influences on the pottery, but swamped later by the Belgic irruption, this being what Mr. Hawkes has recently called the primary area of Belgic settlement.[11] Here the inturned entrance appears to have been introduced by the people who brought the Iron Age cultures.[12]

(V) The area extending from the Chalk Downlands to the oölitic escarpment. Here there appear to be South-Western influences, as at

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1. E. T. Leeds, *Archaeologia*, LXXVI, 205; LXXXI, 33.
2. Radford, *op. cit.*
3. *Ibid.*
4. Dr. R. E. M. Wheeler, *Rept. Res. Cttee. Soc. Ants.*, No. IX.
5. V. F. Nash Williams, *Arch. Camb.*, 7th series, Vol. XII, p. 237.
6. See the most valuable discussion by Dr. Wheeler, *Ant. J.*, XV, 265 ff.; XVI, 265-283; and C. F. C. Hawkes, *loc. cit.*, note 1.
7. C. F. Hawkes, *Proc. Hants. Field Club*, Vol. XI.
8. *Sussex Arch. Collections*, LXX, 33; LXXII, 100.
9. *Ibid.*, LXVIII, 1; LXXII, 151.
10. *Ant. J.*, XI, p. 14.
11. *Loc. cit.*, note 1.
12. *Ibid.*

Bredon[1] and Hunsbury,[2] superimposed on Iron Age A influences, as at Leckhampton.[3] The inturned entrance may have been derived from either source.

(VI) The southern Welsh Marches, *i.e.* the fringes of Wales, west of the Severn, where in Hereford (Poston) and the Malverns[4] hill-forts with inturned entrances appear to have been built in the first century after Christ by people who used pottery which showed South-Western influences.

(VII) The central and northern Welsh Marches, with extensions into Wales and the Triassic Midlands. The hill-forts with inturned entrances appear to have been built in the first century after Christ either before the Roman conquest (as at Corley, Eddisbury, and probably Titterstone Clee,[5] Bickerton, and Dinorben I[6]), or during the Roman advance as the Breiddin.[7] The hill-forts of this region have either provided no evidence of the culture of their builders (Titterstone Clee and Dinorben) or evidence which gives no definite clue to the provenance of that culture (Breiddin and Bickerton).

It is clear, therefore, that the hill-fort with inturned entrance is not exclusively associated with any one culture-province, and that the inturned entrance is not an index to any one specific culture-complex. The evidence at present available suggests that the inturned entrance is dominant in the areas associated with the South-Western culture, or in the areas affected by the South-Western culture. It also occurs within the area dominated by the Iron Age A cultures; in short, the inturned entrance appears to have been known to all the early Iron Age invaders.

At this point a distinction must be made between the area north of the Severn shores and the area to the south. First, a distinction of date, for the southern group was in existence before the Belgic invasions, but the northern group came into existence on the eve of the Roman conquest; secondly, a qualitative distinction between richer cultures of the south and poorer cultures of the north. My final point, the expression of a purely personal opinion, is that the two distinctions are related and have a bearing on the question which was the starting point of this discussion, namely, the value of the inturned entrance as a clue to the origins of the hill-forts with inturned entrances of the North-west Midlands. The distribution suggests that the most likely source from which the idea of the inturned entrance as a structural feature in hill-forts of the Central and Northern Welsh Marches could have been derived is the area of the Severn Shores. The chronological evidence suggests that that idea did not spread until the first century after Christ, and was quickly followed by the Roman Conquest. The area from which the spread started might well have had a hybridised culture, since the Severn shores are geographically marginal to the areas of characterisation of the distinctive Iron Age cultures of South Britain. But in any case the builders of the hill-fort of the North-west must have been cut off from the Severn Shores by the rapid advance of the Roman invasion at a very early date, for which reason they were hardly likely to have had the time or the opportunity to develop a distinctive differentiated culture of their own. In conclusion, the possession by Maiden Castle, Bickerton, of an inturned entrance may be held to link it with a group of hill-forts founded in common circumstances, not with the spread of a specific culture. In other words, Maiden Castle, Bickerton, belongs to a geographical area which enjoyed a particular historical experience. It is to be hoped that the excavation of Eddisbury, another member of the group, will throw further light on the details of that historical experience.

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[1] *Vide* Annual Report of *Res. Cttee. Soc. Ants.*, 1935.

[2] V.C.H., *Northants*, I, 147.

[3] *Transactions Bristol and Glouc. Arch. Soc.*, Vol. 47.

[4] Radford, *Rept. of Royal Commission on Anc. Monts., Herefordshire.*

[5] B. H. St. J. O'Neil, *Ant. J.*, XIV, p. 13.

[6] Dr. Willoughby Gardner, *Ann. Rep. British Association*, 1923.

[7] Information by courtesy of Mr. O'Neil, in advance of publication.

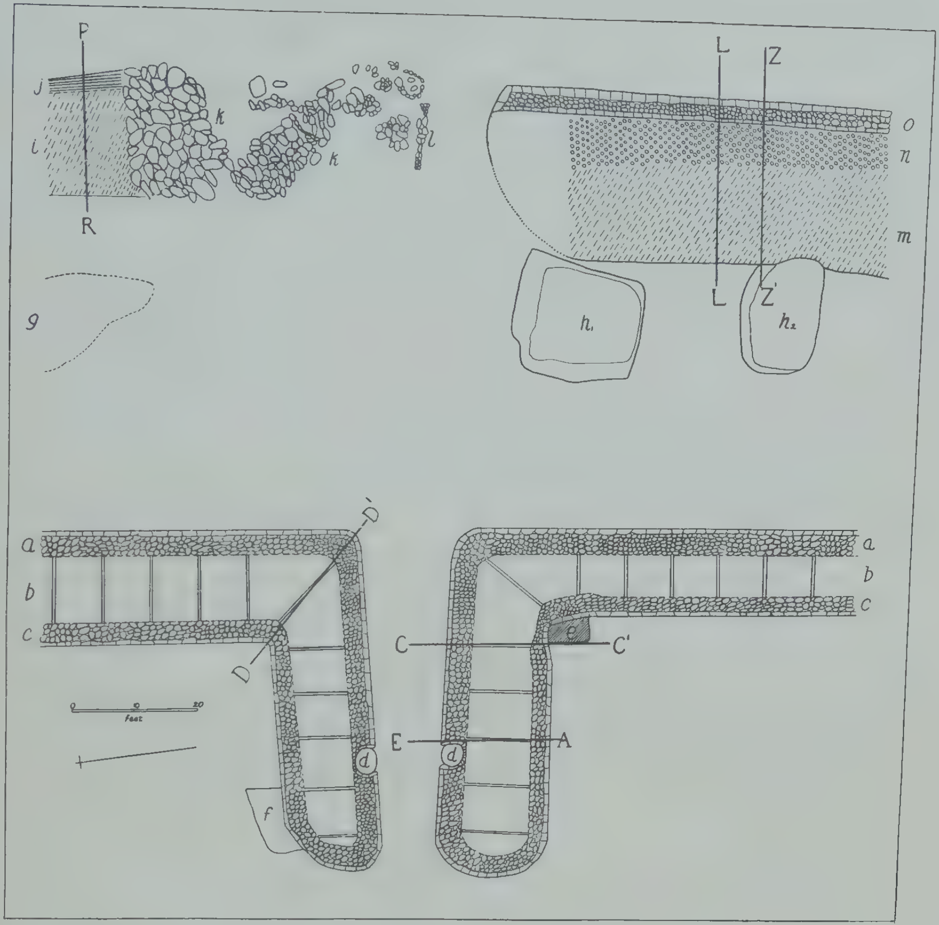
Special Note on the Map of Inturned Entrances (Fig. 3)

The map has been prepared by Miss L. F. Chitty. It is based on all available information, checked as far as possible in the field by Miss Chitty or one or other of Messrs. Radford, O'Neil and Varley. Among others who have been consulted thanks are especially due to Mr. E. G. Bowen, Mrs. E. M. Clifford, Mrs. E. M. Cunnington, Prof. R. G. Collingwood, Dr. Cecil Curwen, Sir Cyril and Lady Fox, Miss Betty Furness, Dr. Williams Freeman, Dr. Willoughby Gardner, Mr. W. F. Grimes, Mr. C. F. C. Hawkes, Mr. I. T. Hughes, Mr. T. Wakes, Mr. Nash Williams.

The map in its present form is only a preliminary essay, for which reason criticisms, corrections and additions will all be welcomed. The detailed schedule of sites included on the map will be published with a revised version at some time in the near future, possibly in connection with the report on the Eddisbury Excavations.

Acknowledgments

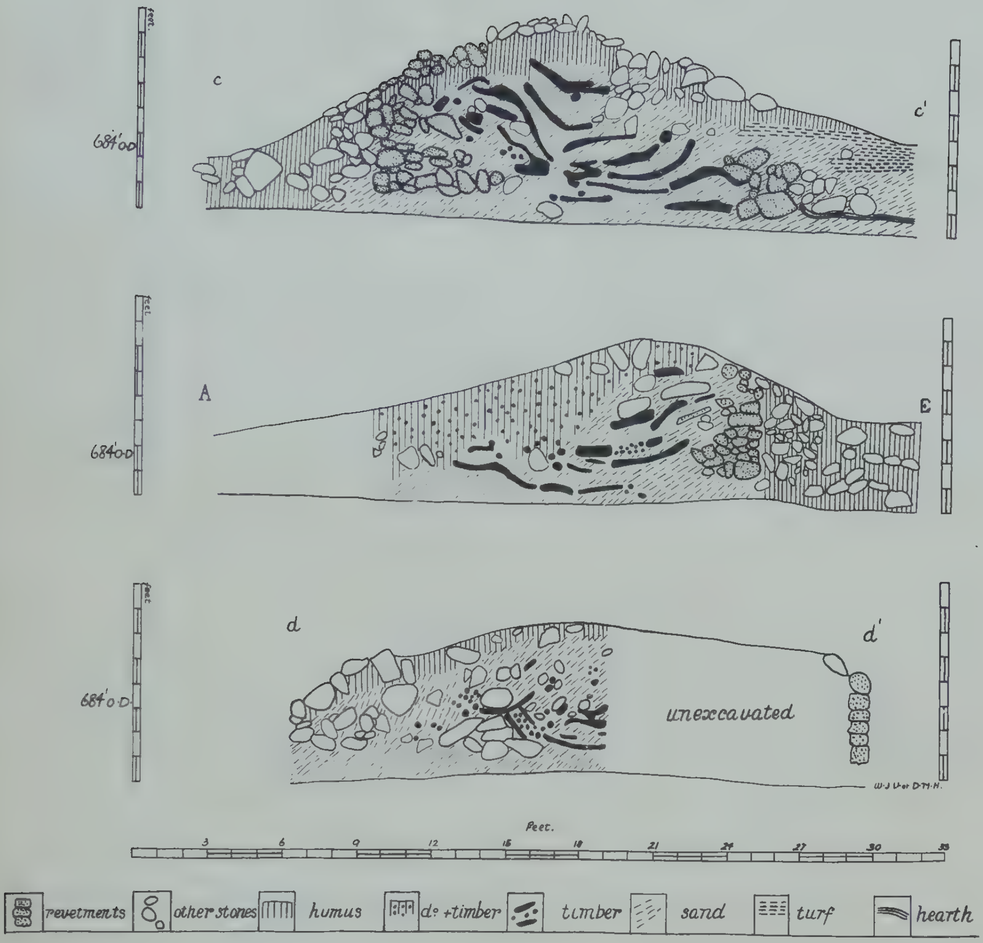
Acknowledgments are gratefully due to Sir Philip Egerton and Mr. A. Shone for continued permission to excavate, to the officials of the Bickerton Camp Scheme by whose efforts the excavations were made possible, to the men from the Liverpool Service Clubs, affiliated to the Liverpool Voluntary Occupational Centres Association, whose voluntary efforts carried the excavations through, and to my assistants, Mrs. Varley, the Misses Furness and Hogg, Messrs. Ellis, Jones and Walker. For help received at various times I am greatly obliged to Professor Droop, Profesor Gordon Childe, Professor Robert Newstead, and more particularly Mr. Christopher Hawkes. My debt to Miss Chitty and Mr. B. H. St. J. O'Neil is beyond acknowledgment.



MAIDEN CASTLE, BICKERTON. PLAN OF AREA EXCAVATED IN 1935.

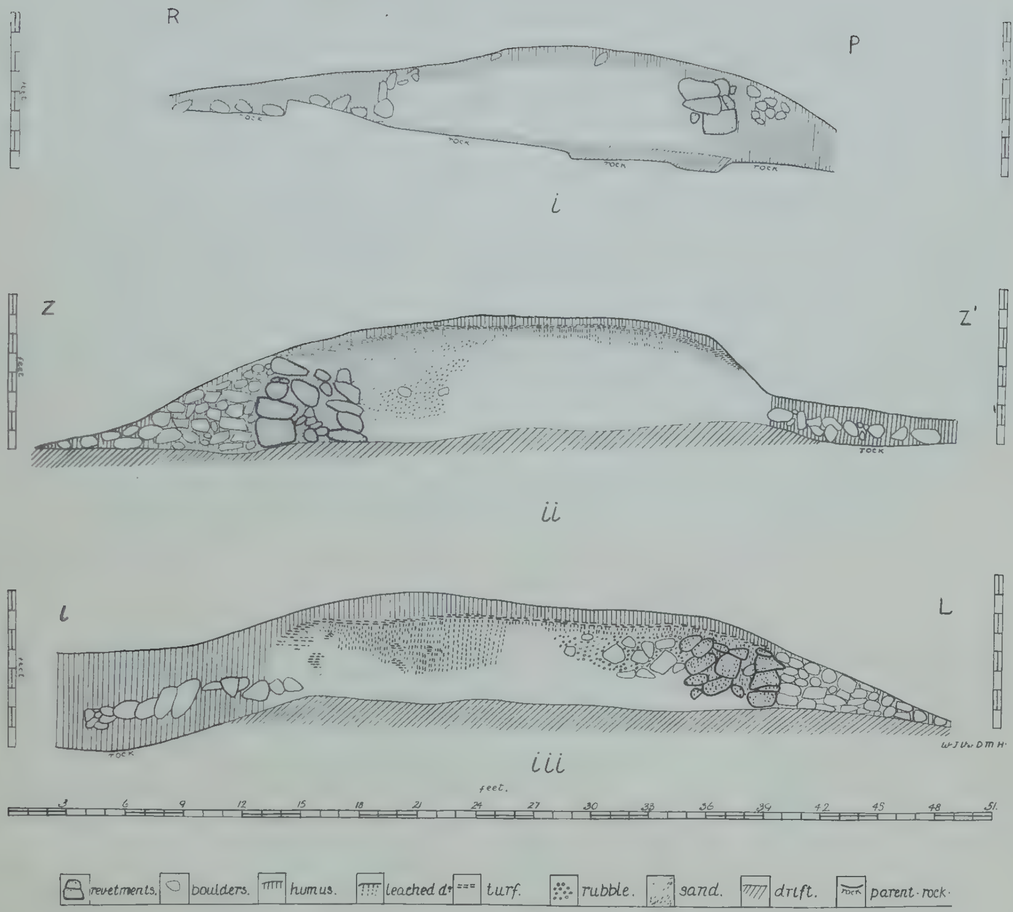
a. OUTER REVETMENT INNER RAMPART.
b. SAND AND TIMBER CORE.
c. INNER REVETMENT.
d. GATE-POST HOLES.
e. OCCUPATION FLOOR.
f. POSSIBLE OCCUPATION FLOOR.
g. ROCK OUTCROP.
h1. & h2. DITCH HOLLOWS.
i. SAND CORE OUTER RAMPART NORTH OF ENTRANCE.
j. OUTER REVETMENT.
k. DISMANTLED RAMPART.
l. POSSIBLE END OF OUTER RAMPART.
m. SAND CORE OUTER RAMPART SOUTH OF ENTRANCE.
n. RUBBLE ZONE
o. OUTER REVETMENT.
P.-R. D.-D.' ETC. LINES OF SECTION.

PLATE XLIV

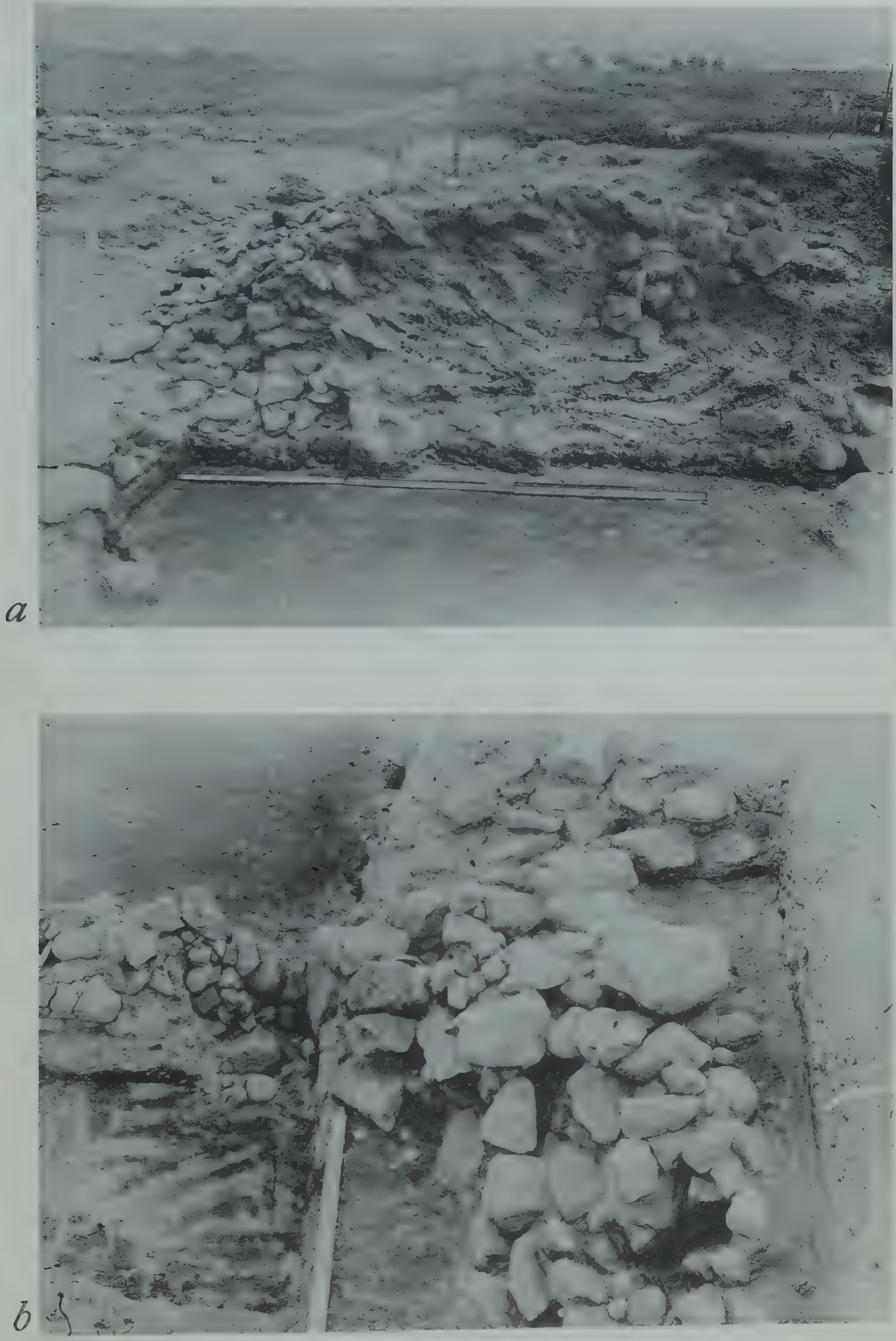


Maiden Castle, Bickerton. Sections through Entrance Ramparts.

PLATE XLV



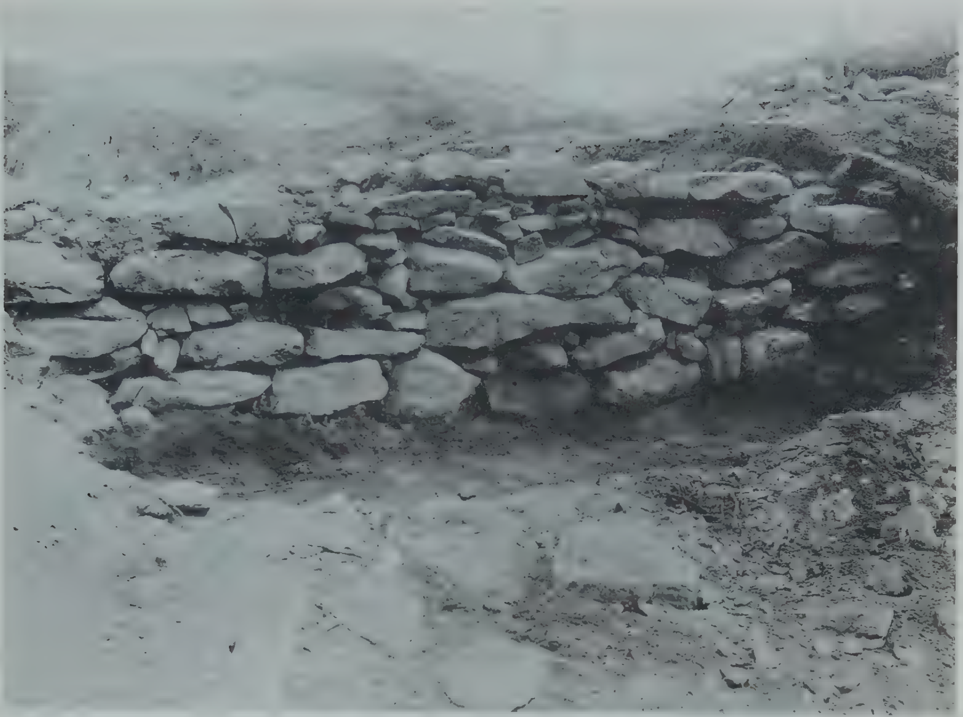
MAIDEN CASTLE, BICKERTON. SECTIONS THROUGH OUTER RAMPART.

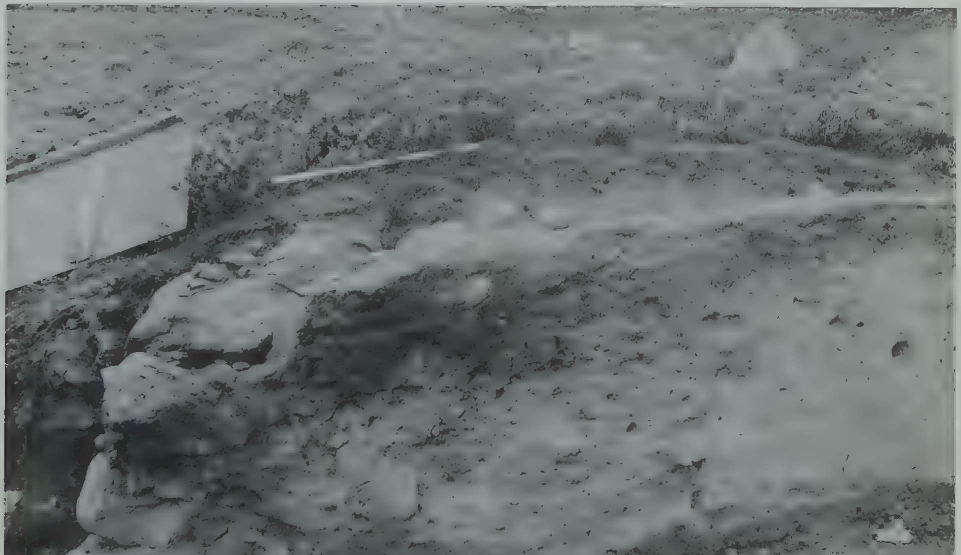


MAIDEN CASTLE, BICKERTON.

a. THE SOUTHERN ENTRANCE RAMPART, SECTION CC′.

b. THE ANGLE BETWEEN THE INNER RAMPART (RIGHT) AND THE SOUTHERN ENTRANCE RAMPART (LEFT). THE STAFF LIES ON THE OCCUPATION FLOOR.

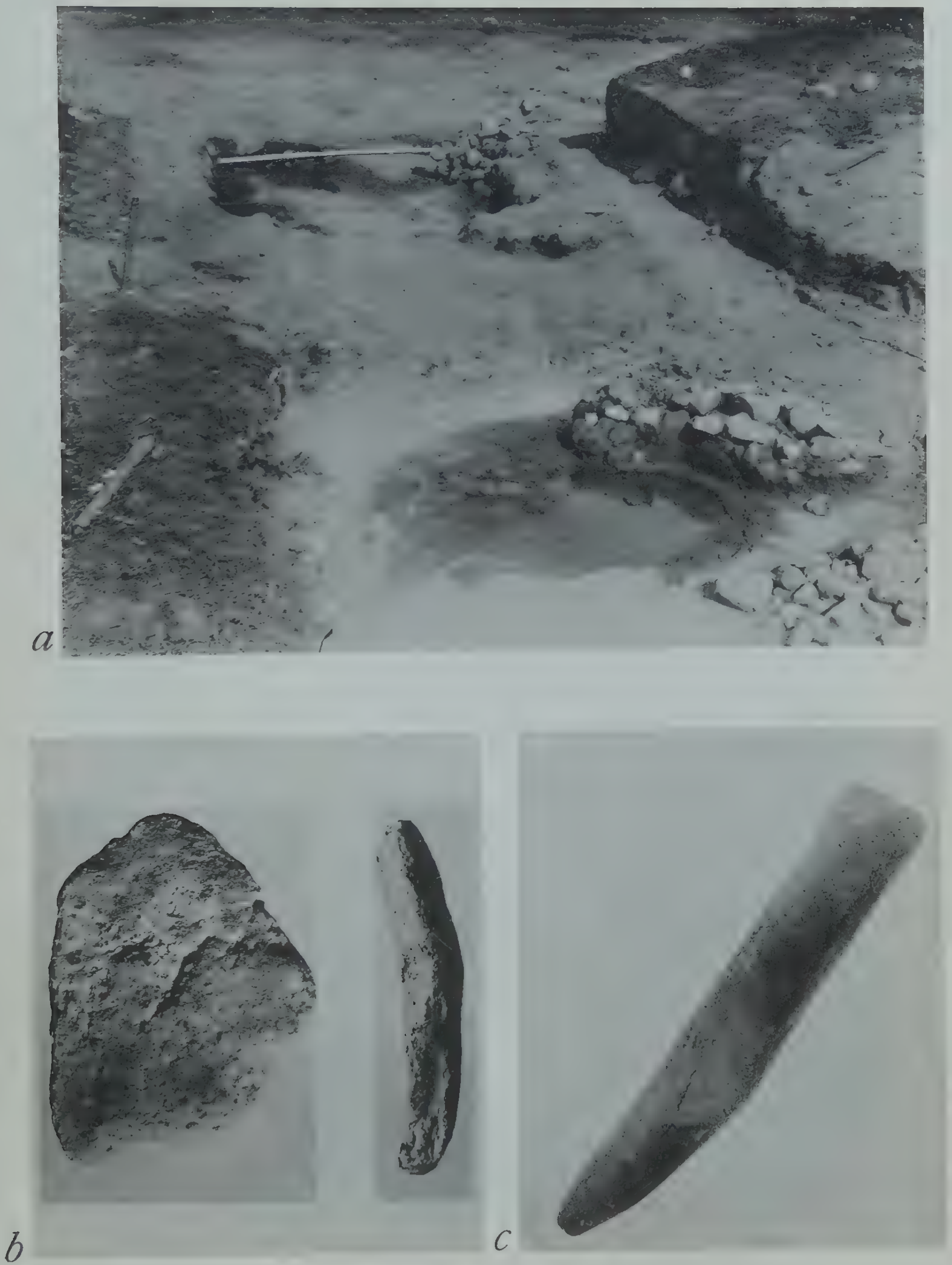




MAIDEN CASTLE, BICKERTON.

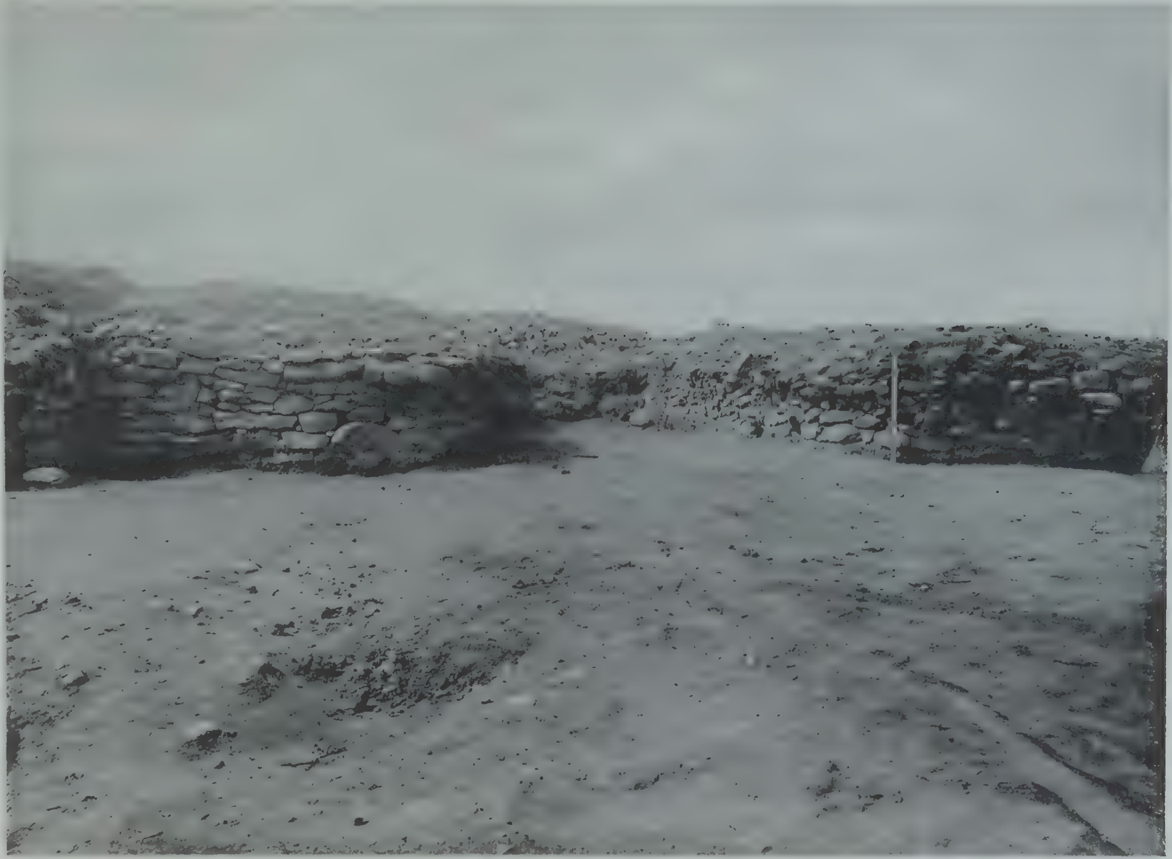
OUTER RAMPART, SOUTH OF THE ENTRANCE.

a. OUTER REVETMENT.
b. PART OF SECTION ZZ′ (STONE REVETMENT LEFT, RUBBLE ZONE CENTRE, SAND CORE RIGHT).



MAIDEN CASTLE, BICKERTON.

a. DITCH HOLLOWS.
b. POTSHERD FROM OCCUPATION FLOOR. (Scale $\frac{2}{3}$).
c. WHETSTONE FROM OCCUPATION FLOOR. (Scale $\frac{3}{8}$).



Maiden Castle, Bickerton.
THE INTURNED ENTRANCE.

THE AXES FROM MAIKOP AND CAUCASIAN METALLURGY

By V. GORDON CHILDE

WITH PLATES LI AND LII

In his *Archaeology and the Sumerian Problem* Dr. Frankfort has re-stated his thesis of a Caucasian cradle for higher metallurgy (using closed moulds) and illustrated it by a map giving the general distribution of certain significant types. On the theory in question such a map should reveal the ' Caucasian ' types radiating in all directions from the assumed centre. But in 1931 no map could be expected to disclose such a distribution, for the very good reason that comparative material was totally lacking from the unexplored regions east and west of the massif ; and even for country north of the Caucasus Dr. Frankfort had to rely on a limited number of badly published tomb-groups. Now, however, the excavations at Tepe Hissar, Tepe Giyan and Tepe Sialk in Iran and those at Alishar Huyuk and Ahlatlibel on the Anatolian plateau have yielded a number of relatively dateable metal objects. And the present writer himself has had an opportunity of examining the South Russian material in the museums of Leningrad and Moscow. It is therefore worth while re-examining the Caucasian theory in the light of the new data.

The examination may conveniently begin with the celebrated ' Copper Age ' tomb near Maikop on the Kuban, that being reputedly the oldest of the European graves that have yielded metal objects of ' Caucasian ' character. While the art objects from the tomb have been worthily published by Farmakovsky,[1] the copper weapons which particularly concern us are only known from the inadequate half-tone reproductions in the original report [2] and copies thereof. To remedy this defect I reproduce here line drawings of the relevant objects which I was enabled to make through the courtesy of Prof. J. Orbelli, Director of the Hermitage Museum, Leningrad.

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[1] *Mat. Arch. Ross.*, 34, pp. 50 ff. Reproduced in Rostovtseff, *Iranians and Greeks in South Russia*, Pl. III.

[2] *Otchet Imp. Arch. Komm.*, 1897 ; copies in Childe, *Dawn of European Civilization*, fig. 61, etc.

The shaft-hole axe (Pl. LI, a) differs markedly in profile from the early Sumerian and Syrian axes, illustrated by Frankfort, in all of which the shaft-tube is prolonged,[1] and equally from the remaining South Russian copper axes (where the blade is generally curved [2]), and, we may add, from Minoan or Hungarian examples.[3] The best parallels are Mesopotamian, but belong not to the pre-Sargonic Sumerian series but to the 'Akkadian axes,' like those from a grave at Assur,[4] assigned to the second half of the third millennium B.C. Perhaps the shaft-tube is less accentuated and rounded than in these, but it is much more distinct than in any other European copper axe; for South Russian, Hungarian and Aegean axes tend to be cuneiform in plan.

The transverse axe (Plate LI, b) agrees perfectly with the specimens from many ruined cities in Mesopotamia. Since the type, which appears fully formed in the Royal Tombs of Ur, lasted unchanged into the latter half of the second millennium, it is unfortunately useless for dating purposes. Its distribution is discussed below.

The axe-adze (Pl. LI, c) could perfectly well be treated as a combination of 'a' and 'b.' The type is not found in Mesopotamia at all. But, as is well known, axe-adzes are exceedingly common in the Middle Danube basin particularly in the eastern part of pre-war Hungary. Thence they spread as far as South Germany, Poland, the Ukraine and Bulgaria.[5] Our example is easily distinguished by its profile from the Hungarian types.[6] It differs in the same respect from some Early Helladic [7] and Early-Middle Minoan [8] examples from Greece, but less markedly from a form appearing in Crete perhaps by Middle Minoan II.[9] A specimen from Hissarlik, assigned by Schmidt to Troy II,[10] with an open-work shaft-tube is more elaborate than that from Maikop. Finally, the axe-adzes discovered east of the Caucasus in Hissar III[1] and above the ruins of Mohenjo-daro[2] diverge from Fig. 3 in profile and in the possession of a downward prolongation of the shaft-tube. It should be noted that the Maikop axe-adze in no sense occupies a typological position intermediate between the Hungarian and Indo-Iranian groups, as it should on Heine Geldern's theory[3] that the last-named implements were brought by Aryans from Hungary *via* the Caucasus.

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[1] As also in the rare type A10 from the Royal Tombs of Ur.

[2] *E.g.*, *E.S.A.*, ii, figs. 98 and 99.

[3] *E.g.*, Childe, *Dawn*, figs. 13 and 87; *Dacia*, iii-iv, p. 353; etc.

[4] Andrae, *Die archäischen Ischtartempel*, Pl. 60.

[5] Childe, *Danube in Prehistory*, pp. 204 f.; *E.S.A.*, ii, fig. 99, 6; *Real.*, ii, s.v., Bulgarien.

[6] The provenance of allegedly Caucasian specimens of Hungarian type illustrated in Zichy, *Voyage au Caucase*, ii, Pl. II, is more than doubtful.

[7] Goldman, *Eutresis*, fig. 287. The same simple form has recently been found by the Oriental Institute of Chicago in Palestine about 1200 B.C.

[8] Childe, *Dawn*, fig. 13, 3.

[9] *Ibid.*, fig. 13, 4.

[10] *P.Z.*, iv, p. 22.

The large knife (Plate LI, d) is here reproduced to show that Hubert Schmidt's ingenious comparison with a Late Minoan razor is irrelevant and cannot be used for dating the tomb. In fact none of the types here illustrated suffice to date the Maikop burial with any more precision than the ornaments and engraved vase. For these dates varying from 3000 to 1500 B.C. have been proposed, and the axes could happily be placed within the same limits.

In any case the transverse axe from Maikop (Plate LI, b) is a clear but isolated example of a highly-specialised metal type from North Caucasia to which exact parallels can be quoted south of the ranges. The spatial distribution of the type is given in Pl. LII, a. But the distribution in time must also be taken into account. While numerous examples from Ur, Lagash, Shuruppak, Kish and even Tepe Gawra[4] go back to the age before 2500 B.C., those from Ras Shamra on the Syrian coast[5] are assigned to the fourteenth or thirteenth century and those from Luristan[6] are undated. On the other hand, there are copper implements of a rather different form from Susa[7] and apparently from Tepe Sialk[8] that may go back into the fourth millennium. The spatial and temporal distribution of transverse axes therefore seems to point very explicitly to a primary focus of production in Mesopotamia. The example from Maikop could most naturally be regarded as a Mesopotamian type that had strayed just into Europe—very likely an actual

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[1] *Mus. J.* (Philadelphia), 23, Pl. CXVIII.

[2] *Ann. Rep. Arch. Survey India*, 1927-1928, Pl. XXV, 10 ; *E.S.A.*, ix, p. 161.

[3] *Internat. Congress of Anthrop. Sciences*, London, 1934, p. 196.

[4] Speiser, *Excavations at Tepe Gawra*, p. 105 ; to the list of Mesopotamian sites I gave in *M.A.G.W.* must be added Susa, Lagash, Tell Sifr, Opis, Assur and Nuzi (near Kirkuk).

[5] *Bull. Soc. Préh. Franç.*, 1930, p. 166.

[6] Goddard, *Les bronzes de Luristan*, Pl. XX, 61.

[7] Childe, *New Light on the Most Ancient East*, fig. 90.

[8] ' Herminette à trou d'emmanchement bordé,' *Syria*, xvi, p. 223, from stratum Ib. There is a shaft-hole hoe in stone from Gawra IX also; Speiser, *op. cit.*, p. 88, and Pl. XLII, 5.

Mesopotamian product that had been carried by trade or plunder across the Caucasus.

On Dr. Frankfort's theory, however, it should be a Caucasian product that had gone northward instead of southward. Now transverse axes like Pl. LI, b, have not so far been reported from Transcaucasia at all. But in the western part of that area there is a group of implements allied to the axes but generally termed hoes. Despite a shaft-tube at right angles to the blade these hoes differ from the axes plotted in Pl. LII, a, both in form and date. In contrast to Pl. LI, b, the blade is relatively short but splayed out very wide. The context in which they occur points to the very end of the local Bronze Age, towards 1000 B.C. At Sazakkale (Artvin District) in the north-east corner of Turkey, only 55 km. from Batum, two such hoes were found in a hoard [1] together with a socketed celt, two shaft-hole axes of Koban type and an Amazon axe-blade. Similar hoe-blades were found at Dzhvari, Migrelia,[2] associated with a Koban axe, arc fibulae with triangular catch-plates, heavy armlets and ingot torques with very wide ends. The west Caucasian hoes are thus demonstrably later than any of the transverse axes plotted on Pl. LII, a, and have therefore been omitted. Whether these hoe-blades can be used as evidence for a prolonged survival of the transverse axe in its original home seems doubtful. What the map of axes like Pl. LI, b, between 3000 and 1300 B.C. does show is that the type only just crossed the Caucasus and apparently never reached the plateaux of Anatolia and northern Iran.

The same is true of the specialised type of spear-head cited by Dr. Frankfort. Spear-heads with a tapering rectangular tang protruding from a round or polygonal butt, such as are so common in pre-Sargonic graves in Mesopotamia, occur in kurgan I at Tsarevskaya and in another tomb in the Kuban valley.[3] In both instances the blade is broader and more leaf-shaped than the Sumerian specimens. On the Pontic steppes it gives rise to a local form still more stumpy in the tang and butt [4] which lasts on till the time of the socketed celt. South of the range spear-heads with a similar butt but a narrower blade are of course very common in the Mesopotamian plain and extend along the Euphrates to the region of Carchemish[1] and the Mediterranean coasts. But even at Tell Kara Hassan near Carchemish the end of the tang is sometimes deliberately bent over to form a hook, and this practice was regularly followed in the coastal region further west. Spear-heads of the type here discussed (without hooked tang) have not yet been reported from Anatolia nor yet from Northern Iran. Their distribution (marked by solid points on Pl. LII, b) accordingly illustrates, like that of the transverse axes, traffic north and south across the mountain massif rather than radiation from it.

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[1] *Jahrb. deutsch. arch. Inst.*, A.A., 1934, p. 357.

[2] No. 347 in Internat. Exhibition of Iranian Art, Hermitage *Catalogue*, i, p. 13.

[3] Childe, *Dawn*, fig. 62; another exhibited to the International Congress of Iranian Art in 1935.

[4] *E.S.A.*, ii, figs. 109, 7-9; 86; 96.

As to the pins cited by Frankfort none have been reported from the Copper Age of South Russia though pins of other forms are common there.[2] And in Transcaucasia they belong as far as is known to the end of the Bronze Age and the Iron Age. In particular, it should be noted that the hand-pins from Faskau (and Tli) with their three 'fingers'[3] are not really like the five-fingered pins from Ur to which they have been compared, belong in general to a Koban context, and may reasonably be compared to a type from Villanovan graves in Upper Italy.[4]

Now had the foregoing types really been of Caucasian origin they should have spread into Anatolia and northern Iran as well as into the Kuban valley and the Mesopotamian plain. Pl. LII a and b on the other hand reveal blanks in Anatolia and Iran that must be regarded as significant.

There are, of course, items in Dr. Frankfort's list which do exhibit the requisite dispersion. Spiral lock-rings, for instance, are found as far east as Shah Tepe in the Turkoman steppe (Transcaspia),[5] Tepe Hissar and Tepe Giyan[6]; in South Russian graves; and westward at Alishar I as well as Troy II, etc. Forks again of various types—bidents or tridents, tanged or socketed—are found at various periods eastward to Hissar III,[7] north of the Caucasus at Tsarevskaya and in another Kuban grave, at

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[1] *Annals*, Pls. XIX, c; XXI, e.

[2] *E.S.A.*, vii, pp. 114 ff.

[3] *Mat. Arch. Kavkaza*, VIII, Pl. CXVII, 5; *E.S.A.*, vii, p. 156.

[4] Randall-MacIver, *Villanovans and Early Etruscans*, Pl. X.

[5] *Acta Archaeologica*, vi, figs. 62 and 95 j.

[6] Contenau and Ghirshman, *Fouilles du Tépé Giyan*; already in 'couche IV,' tombs 102 and 108.

[7] *Mus. J.*, 23, Pl. CXX. Note that the specimen from Tsarevskaya is socketed like the late examples from Transcaucasia and Luristan. The Syrian specimens seem to belong to the second millennium. As the forks may well be derived from wooden prototypes translation into metal may have taken place independently in different regions.

Byblos and elsewhere on the Mediterranean coast but not so far on the Anatolian plateau.

But against these we can cite a series of specialised types that extend east and west of the mountain massif but not north or south of it. As early as the third millennium pins with double spiral heads are found at Chāñhu-Daro [1] in the Indus valley as at Anau III,[2] Hissar II [3] and Rhagae [4] to the east and on the Anatolian plateau,[5] at Troy II, in the Cyclades and Corinthia [6] in Early Aegean times, and even in the Lower Danube basin [7] (Pl. LII, c). Again, copper stamp seals decorated with geometric patterns are found at Shahi-tump in Makran,[8] in Sistan,[9] at Anau,[10] at Hissar II,[11] at Byblos,[12] and at Alishar II.[13] Both types are sufficiently specialised to be significant, yet neither has been reported from this Mesopotamian plain. Perhaps the trick of bending over the tang of daggers (or spear-heads) to form a hook might also be mentioned here, though the blades thus treated vary considerably in form. It is illustrated on Amorgos, at Troy II and elsewhere in Western Anatolia,[14] classically in Cyprus, at Ras Shamra in North Syria,[15] and in Palestine as far south as Gaza,[16] and then to the east in Tepe Giyan IV,[17] in Hissar II [18] and Tureng-tepe : there is even an example from Khafaje (near Baghdad).

It seems to me that such maps as have been attempted here, if they do not give definite clues as to the cradles where types were created, still

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[1] Found during the Boston Museum's recent excavations, associated with pottery of the Jhukar culture which succeeds the classical Indus civilisation, familiar from Harappa (information kindly supplied by Dr. E. Mackay).

[2] Pumpelly, *Explorations in Turkestan* (Carnegie Institute Pubs., 73), fig. 251.

[3] *Mus. J.*, 23, Pl. CIV.

[4] Louvre, AO., 1824 (provenance uncertain).

[5] At Ahlatlibel (*Türk Tarih, Arkeol. ve Etnog. Dergisi,* ii (1934), p. 93, Ab. 355) and at Kusura, south of Afyon (information kindly supplied by Miss Lamb).

[6] Syros, *Dawn*, fig. 20 ; Blegen, *Zygouries*, Pl. XX, 9.

[7] At Vidra near Bucuresti, *Publicat. Muzeu. Municip. Bucuresti,* i (1934), Pl. III, 10, from stratum IIc. Towards the end of the second millennium similar pins appear in the Italian *terremare* and in Late Bronze Age graves in Germany.

[8] *Mem. Arch. Surv. India*, 43, p. 97.

[9] Stein, *Innermost Asia.*

[10] Pumpelly, *op. cit.*

[11] *Mus. J.*, 23, Pl. CVII.

[12] Montet, *Byblos et l'Egypte,* Pl. LIX, 44. A not quite typical specimen from Thermi in Lesbos, *B.S.A.*, XXX, p. 38.

[13] Oriental Institute Publications, 19, fig. 64.

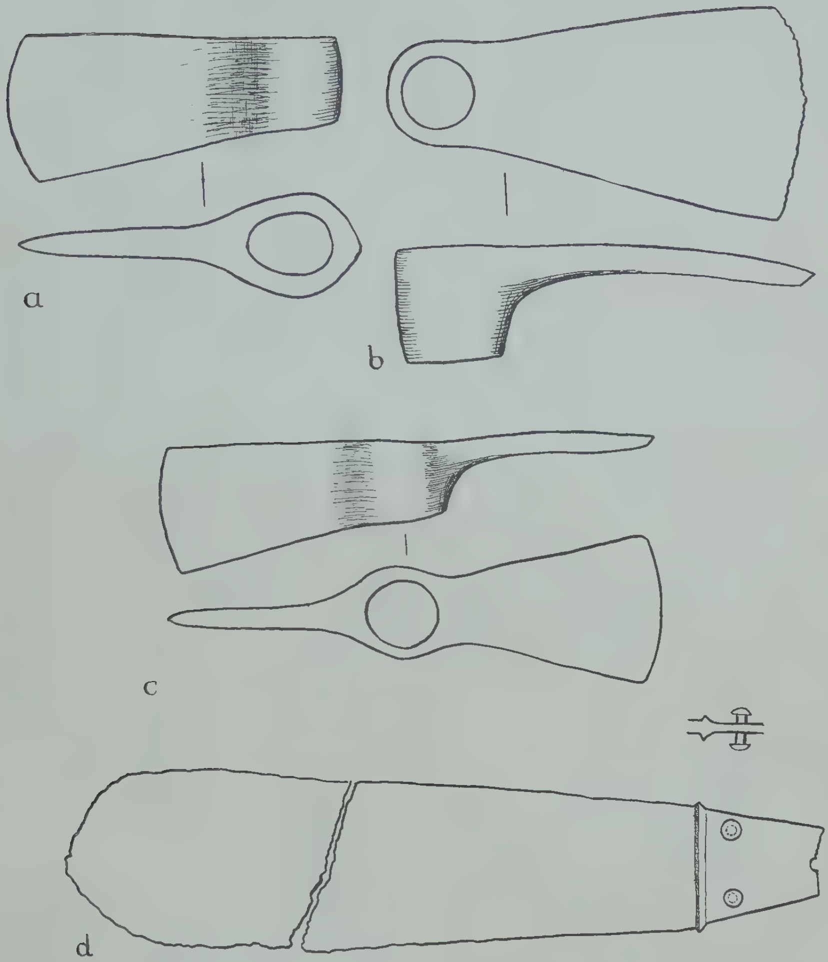
[14] Childe, *Dawn*, fig. 22, and pp. 57 and 62. Note that Reinecke (*Germania*, 17, 1933, pp. 256 ff.) gives reasons for doubting the provenance of the 'Cypriote daggers' found allegedly in Central Europe.

[15] Information from Dr. Schaeffer.

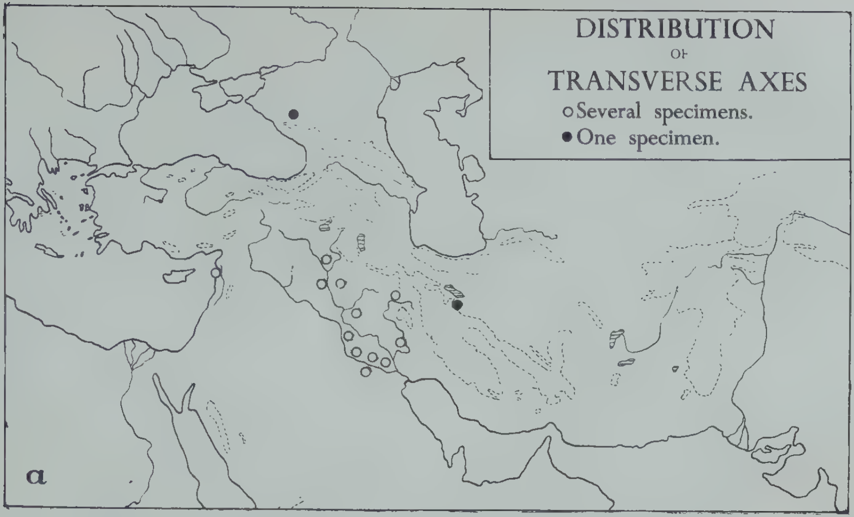
[16] Petrie, *Beth Pelet,* Pl. XIX, j, 48. This specimen, like one from Ras Shamra, apart from the hook conforms to the type discussed on p. 116.

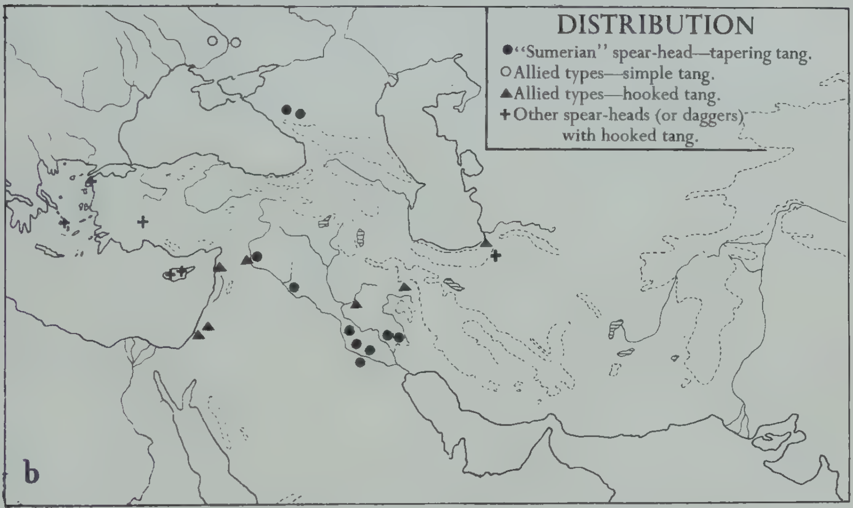
[17] Contenau and Ghirshman, *Tépé Giyan,* Pl. 32, 112.

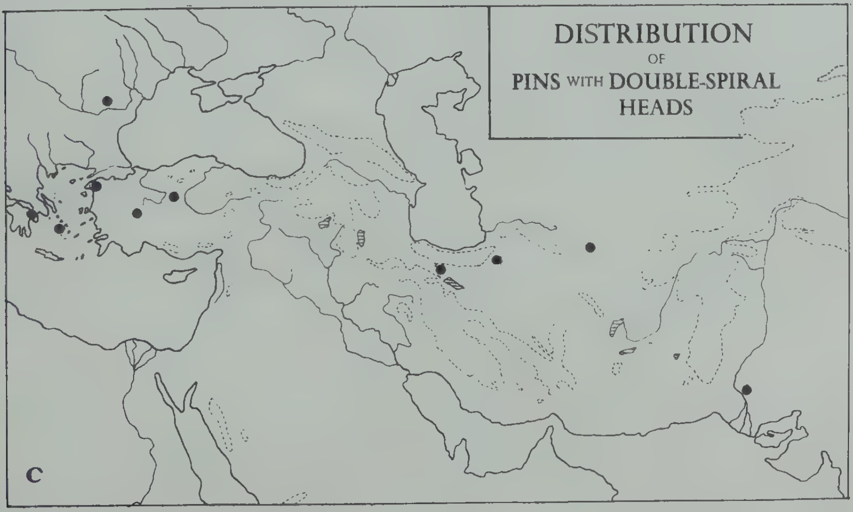
[18] *Mus. J.*, 23, Pl. CIII.



Axes and Knife from a tomb at Maikop. Scale 1:3.


DISTRIBUTION
OF
TRANSVERSE AXES
○ Several specimens.
● One specimen.
a


DISTRIBUTION
● "Sumerian" spear-head—tapering tang.
○ Allied types—simple tang.
▲ Allied types—hooked tang.
+ Other spear-heads (or daggers) with hooked tang.
b


DISTRIBUTION
OF
PINS WITH DOUBLE-SPIRAL HEADS
c

reveal routes of intercourse. The transverse axes and the spears with tapering butts quite clearly disclose connections across the mountain massif between Mesopotamia and South Russia. The double-spiral pins and stamp seals just as evidently follow a different route, along the mountain zone and cutting out the plains altogether. This is the familiar route from North Persia through Tabriz to central Anatolia that was followed by caravans until recent times. The data from Zygouries, Ahlatlibel, Alishar and Hissar now suggest that this route was in use already in the third millennium B.C. and perhaps before 2500 B.C.

The apparently dominant position of the Caucasus region in early metallurgy is therefore simply due to the fact that two routes or groups of routes crossed there. Southward branches from the mountain route are disclosed by the copper stamp seal from Byblos and perhaps by the hooked daggers. The curious parallelism between Aegean-Anatolian 'teapots' on the one hand and Iranian specimens on the other may be connected with the same bifurcation. Finally, the existence of a forerunner of the Persian Royal Road from Mesopotamia across the Euphrates and the Taurus and along the Anatolian plateau to the Aegean is adequately attested by literary as well as archaeological evidence. It would bring to Troy 'Sumerian' devices like ear-rings, lock-rings and knot-headed pins.

For it still remains possible to treat these types as Sumerian creations. In the light of Pl. LII, a and b, the Assyriologist has no need to take refuge in that favourite device of the prehistorian—a *terra incognita* in Transcaucasia or somewhere else. Why should not the axes and spear-heads—and the techniques for their production—have been invented precisely where they are most abundantly and most anciently represented in actual finds? Lower Mesopotamia does lie very near their centre of known dispersion. And why should not the same be true of the other types with which these are associated even if those others travelled further along routes already indicated by spear-heads and axes?

REVIEWS

Hethiter, Churriter und Assyrer. By A. Götze. Pp. 194, Pls. 79, Sketch-maps 5. *Price* 12.50 Kr. H. Aschehong & Co. (W. Nygaard), Oslo.

This book represents a course of lectures delivered at Oslo in 1934. According to the author's foreword, it is an attempt to trace the development of culture in the second millennium before Christ in the Near East, but it is in fact more than that, for it begins with the Sumerian culture of the pre-Sargonic age and ends only with Tiglath-pileser III, the founder of the Assyrian empire. It is indeed dominated by the question, how to account for the striking and even fundamental differences, most apparent in art but extending to all sides of life, between the civilisations of Babylonia and Assyria, both nevertheless being demonstrably children of the same mother—the Sumerian culture as revealed by the Royal tombs of Ur.[1] The answer is found in the occupation of northern Mesopotamia by the Hurrites under Aryan leaders in the beginning of the second millennium; and as we read how in the dark centuries between 1800 and 1450, with Egypt (for a time) and Babylon under foreign dynasties and Assur and Ḫatti still in their infancy, all indications point to the state of Mittanni as the political centre of gravity, the need for some excavator to explore the difficult country of the upper Tigris becomes increasingly clear. This book and the works of Dr. A. Moortgat have shown independently that the art of North Syria formerly known as 'Hittite' is in fact Hurrite, and Götze's sketch of the history of the 'Hittite' problem (pp. 43-52) should clear up any illusions as to the proper use of that name. Götze differs from Moortgat in treating the art of Anatolia—*e.g.* the warrior deity of the Royal Gate at Boghazkeni,[2] and the numerous cult scenes, such as those from Malatia [2]—which Moortgat regards as specially Hittite, as a mere subdivision of the Hurrite art of North Syria,[3] but otherwise their conclusions are practically identical. As regards the Hittites, Götze is most emphatic that their history is strictly confined geographically within the plateau of Asia Minor and temporally within the period 1900-1200,[4] and that they could not therefore have exerted a direct influence on the world of classical antiquity. In this connection it is a pity that some reference could not have been included to the recent book of F. Schachermeyr,

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[1] Pp. 1-9.

[2] Now at Angora.

[3] Pp. 76-77, 84.

[4] Pp. 51 and 80.

Hethiter und Achäer,[1] which appears to have vindicated from the archaeological side one of the ‘ fanciful assertions of others ’ (p. 58), namely, the equation Aḫḫiyawa=’Αχαιοί.

The text has been carefully kept free from all controversy : wherever this was unavoidable, as in frequent references to the works of E. Herzfeld, and in the question of the Amorites (pp. 17 ff.)[2] it is relegated to the notes, which also provide an up-to-date bibliography on many important points. For these reasons, and in view of the clearness of thought and expression throughout, the book may be confidently recommended to the wide public for which it was written.

O. R. GURNEY.

Excavations at Thermi in Lesbos. By WINIFRED LAMB. Text figures 1-61, Plates I-L, Plans 1-7. Cambridge University Press, 1936. £2, 12s. 6d.

Miss Lamb’s final account of her four years’ excavation on the site of Thermi in Lesbos is in almost every way what a definite publication should be, and deserves commendation not least for this, that it has appeared so quickly. A bare three years have passed since the dig closed down, yet the amount of work involved might well have excused a longer delay.

The volume describes and illustrates admirably all the facts revealed by the spade, and a short last chapter sums up clearly the gain to knowledge. About 3200 B.C. a people akin to the Western Anatolian founders of Troy established themselves on the site and led there a peaceful, mainly pastoral, existence for close on a thousand years. Five stages of building separated by no violent breaks could be discerned, and only in the last stage, it seems, was a defensive wall thought necessary, due perhaps to the same fears that led to the elaborate fortifications of Troy II. These apprehensions seem to have reached such a pitch that the town at Thermi was quietly abandoned before the last stage of Troy II—that is, before the close of the Early Bronze Age.

Reoccupied apparently during the Middle Bronze Age by the same peoples, the town came under Mycenaean influence about the beginning of the fourteenth century, and was finally burnt about 1200 B.C., an event which the author is tempted to connect with the legend of Achilles’ raid on Lesbos at the beginning of the Trojan War.

Much might be said on the system to be adopted in digging a town site. Miss Lamb’s method, to dig one or two areas in a season down to virgin soil and then to fill in, was dictated by the need for economy, compensation to the owners on that system coming to less. But it may be doubted whether the undoubted advantage of the system which Miss Lamb points out, namely, that it automatically produces sections in the four sides of the area, most useful for checking levels and floors, compensates for the undoubted danger of contamination to the strata through the possible washing out of objects from the upper levels in the sides of the section.

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[1] *Mitteilungen der Altorientalischen Gesellschaft,* 1935, Band IX, Heft 1-2.

[2] Götze rejects the thesis of Bauer and Landsberger that the West-Semitic invaders who established the dynasties of Isin and Babylon were not Amorites but ‘East Canaanites.’ He claims that not only these but also the Semitic-speaking people of Ras Shamra were Amorites (pp. 142 and 144 ff.).

Mr. Hutchinson contributes an interesting chapter on Hearths, but I would beg him to remember that all archaeologists are not mathematicians. When (p. 47) he writes, 'the percentages of "simple" and of "uncertain" hearths in our statistics vary in inverse ratio,' I don't know what he means, nor does the table on p. 60 bring me enlightenment. The illustrations, drawings, maps and photographs leave no room for criticism, unless it be that the general views are perhaps too much reduced and grouped too many on a page, a most pardonable error if it has kept the price down to the very reasonable figure of two and a half guineas. J. P. Droop.

Mexico, from the Earliest Times to the Conquest. By Thomas Gann.
Pp. xii+206. Plates I-VIII.

Mesopotamia: Excavations on Sumerian Sites. By Seton Lloyd.
Pp. xiii+198. Plates I-XVI.

Ancient Rome, as revealed by Recent Discoveries. By A. W. Van Buren.
Pp. xvi+184. Plates I-IX.

London: Lovat Dickson, 1936. 6s. each.

This series appears to us as ill-advised, though doubtless planned in full account with the spirit of the age, an age of popularisation, of advertisement, for what is popularisation but advertisement of a more decent kind? To-day the man of science is no longer content to do his work, but urged by the hope, let us say, of creating interest and winning support for his labours, now devotes part of his time to explaining them to a wider public. And this within limits is all very well. Many admirable books have been written with this object. But limits there are, and when a publisher induces a scholar to endeavour to put what is known of Mexico before the conquest into 206 small octavo pages in 'English' type the limits of good sense are passed.

Of the three books under notice the least successful is Dr. Gann's. He was set the most difficult task, and it is not his fault that a careful reading of his book leaves only an impression of bloodthirsty gods and unpronounceable names.

It is, on the other hand, possible to get some kind of impression of the successive states of Mesopotamian civilisation from Dr. Seton Lloyd's judiciously selected account of recent work and results, though he, too, is terribly cramped.

Undoubtedly, however, the most successful work is Mr. Van Buren's well-documented sketch of the light thrown on Ancient Rome by recent work in the Holy City. Of the three, since he had not to compress unduly the details of successive states of culture, an unbearable handicap to the other authors, his was the easiest task, but it has been admirably carried out; the necessary work of selection has been well done, and from the whole a clear picture stands out of the new knowledge acquired in recent years, and, too, of the methodical care bestowed by the Roman authorities on the treasures of the past.

J. P. DROOP.

Corinth. Vol. III, Part II: The Defenses of Acrocorinth and the Lower Town. By RHYS CARPENTER and ANTOINE BON, with contributions by A. W. PARSONS. Plates I-X. Text Figures 1-242. Harvard University Press, Cambridge, Mass., 1936.

This latest publication of the American School of Classical Studies at Athens, a study of the defences of Corinth (in an English journal the English spelling is preferable though the ancestry of that preferred by the authors is at least as old), is an excellent piece of work. Three chapters on the classical fortifications—those of the Acrocorinth and the City Walls by Dr. Rhys Carpenter, the Long Walls to the Gulf by A. W. Parsons—are followed by a chapter on the Medieval Fortifications of Acrocorinth and Vicinity by Dr. Antoine Bon, which is longer than the first three together, and is divided into three sections: A, the Historical Background; B, the Archaeological Evidence; C, Chronological Inferences. Two appendices conclude the book; one describing a fifth-century chamber tomb with a stone funeral bed, the other dealing in detail with the unique construction of the north-east section of the City Wall, consisting of a solid core of sun-dried brick laid between two faces of careful ashlar masonry, the whole placed on a massive teichobate of *poros* blocks.

The get-up of the book, the photographs, maps and plans are extremely good, and it is perhaps hypercritical to complain that one map is missing from Chapter III, a continuation of Plate III to the west that would show the position of the west Long Wall: for the determination for the first time of the line of these walls, together with the discovery of the 'Isthmian' gate in the eastern wall, is rightly emphasised as one of the triumphs of the excavation.

In this volume of American parentage (though born apparently in Vienna) it is interesting to note differences of language, though it is a learned volume such as might be expected to eschew the more vivid creations of the American tongue. The use, for instance, of the expression 'outside of the walls' (p. 56) may be noted, where the English idiom requires either ‘outside’ or ‘on the outside of,’ but in the word ‘deprecate’ (p. 140) it seems better to assume the omission of an *i* by the printer rather than an American survival of the obsolete sense of ‘to express strong disapproval of.’ J. P. Droop.

Excavations at Saqqara: The Step Pyramid. By C. M. Firth and J. E Quibell. Vol. I. Text, pp. i-viii, 1-144, with 23 figs.; Vol. II. Pls. 1-110. Cairo: Service des Antiquités de l'Egypte, 1936. *Price* P.T.330. *Fouilles à Saqqarah: La Pyramide à Degrés: L'Architecture.* By Jean-Philippe Lauer. Vol. I. Text, pp. i-viii, 1-254, with 249 figs. Vol. II. Plates I-CIV. Cairo: Service des Antiquités de l'Egypte, 1936. *Price* P.T.320.

These four fine volumes throw so much new light on the architecture and general culture of Early Egypt, that they must be read from beginning to end and their contents thoroughly digested by every Egyptologist. A few years ago no one could have supposed that the builders of the Third Dynasty were capable of producing stone buildings on so vast a scale and of such dignity and beauty. Though, as the authors rightly point out, these buildings reproduce forms that are characteristic of wattle and daub as well as of wooden and brick constructions, it is almost impossible to accept their view (Firth and Quibell, p. 23; Lauer, pp. 210 ff.) that they were the earliest stone edifices of any size to be erected in Egypt. They must surely be the product of much experience, not only in the cutting of stone, but in its use for architectural purposes. Evidence supporting this opinion will, unless I have misunderstood him, be produced by Mr. Emery in his forthcoming publication of the tomb of Hemaka.

Lauer's introductory remarks (pp. 1 ff.) on the evolution of the Egyptian royal tomb are highly instructive, and his suggestion (p. 4) that the great wall surrounding the precincts of the Step Pyramid was a copy of the wall erected by Menes around his newly founded capital of Memphis is somewhat attractive.

He (pp. 10 ff.) and his two English colleagues (p. 86) hold the opinion that at least five successive changes of design are discernible in the masonry of the pyramid, two, however, dating from the time when the erection not of a pyramid but of a mastaba was in progress.

Remarkable, but not altogether surprising, in view of the ‘grand tombeau souterrain’ (Lauer, p. 4), is the labyrinth of passages and chambers underlying the pyramid and the superstructure of the ‘Southern Tomb.’ An outstanding feature in certain of the subterranean chambers is the employment of blue faience tiles as a wall-covering. Quibell's suggestion (p. 33) that the three stela-like panels (Pl. 14, 2) may be intended for the fronts of barns or storehouses seems a possible one. But what purpose did these tiled apartments serve? Were they intended to be put to some ceremonial use, or were they merely magazines ? Hardly the latter, in view of the character of the reliefs in the niches. Here be it pointed out that these reliefs and the accompanying inscriptions form the subject of a most illuminating article by Professor Kees in *Nachrichten der Gesellschaft der Wissenschaften zu Göttingen* (*Philologisch-Historische Klasse*), 1929, pp. 57 ff.

Lauer (p. 29) is surely correct in maintaining that the entrance passage on the north side of the pyramid, west of the great structural incline, dates from the time of Djoser, and that it was the only means of access to the burial-chamber and the other subterranean rooms and passages at the time of that king's burial. His theory that the original burial-chamber both of the pyramid and of the 'Southern Tomb' was constructed of alabaster and had a star-spangled ceiling, and that this alabaster chamber was in either case eventually replaced by one of granite, seems to suit the archaeological evidence, as does also his view that the floor of the 'chambre de manœuvre' was covered with a sort of mosaic pavement composed of diorite, dolomite and schist (pp. 32 ff. ; 102 ff.).

Most Egyptologists will agree with the authors that the building to the south-east of the pyramid was erected in connection with the *ḥb-sd*, or jubilee festival, of King Djoser, the chapels on the west and east side of the court being those of the divinities of Upper and Lower Egypt respectively ; that the altar-like construction at the south end of the court is a dais, once supporting the two kiosques in which the king sat alternately as sovereign of the southern and northern kingdom ; and that the somewhat similar but much larger construction in the great northern court is possibly the basis for an obelisk, a forerunner of the great obelisk erected in the *sd-ḥb* temples of certain of the kings of the Fifth Dynasty.

Lauer's suggestion that the 'Southern Tomb' was a glorified kind of canopic box will be far more acceptable to most modern Egyptologists than the explanations offered by Firth and Quibell (pp. 20 and 57).

Firth (p. 11) is incorrect in stating that 'in the well-known representations of a King founding a Temple he is shown driving . . . into the ground' the posts of the wooden palisade which protected the court in front of the very primitive Egyptian shrines. As the inscriptions plainly indicate, the king in such scenes is depicted 'stretching the cord' to mark out the axis of the future building.

On p. 9, 28 f., the signs reading *rʿnbw* should be rendered not 'Golden Hours,' but 'Sun' or 'Rēʿ of Gold,' and on pp. 15 and 16 the translation of the name Ḥetepḥernebty should be 'The face(s) of the Two Ladies (not "two Goddesses") are gracious.'

In addition to those listed in *Errata* (Firth-Quibell, I, p. 142), I have noted the following misprints :—

I. p. 18, 13.—*For* : built, *read* : build.
p. 60, 26.—*For* : chamber, *read* : chambers.
p. 75, 13.—*For* : east wall, *read* : south wall.
p. 77, 2.—*For* : Pl. I, c, *read* : Pl. 7, c.

Lauer's drawings of the buildings as restored are admirable (see especially Pls. IV, V, XXVIII, XLV, LVII, LXXIII, LXXXIII). He has a fine imagination, which he has not permitted to outrun the facts supplied by the actual architectural remains.

Both volumes of text have one serious defect—neither is supplied with a general index, which would have been invaluable to readers.

A. M. Blackman.

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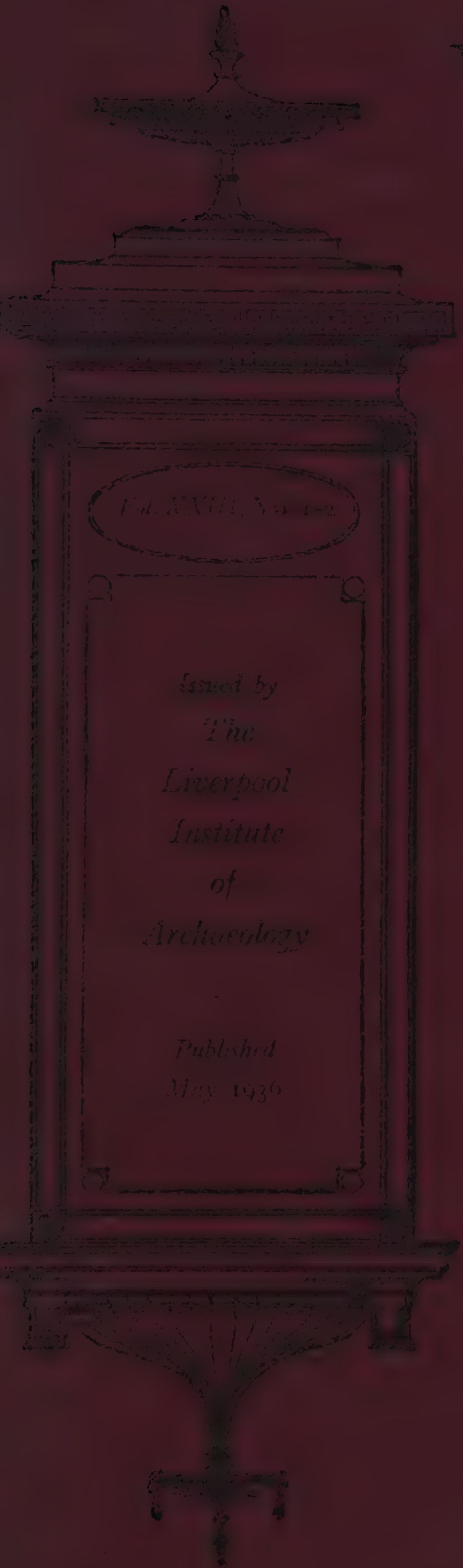

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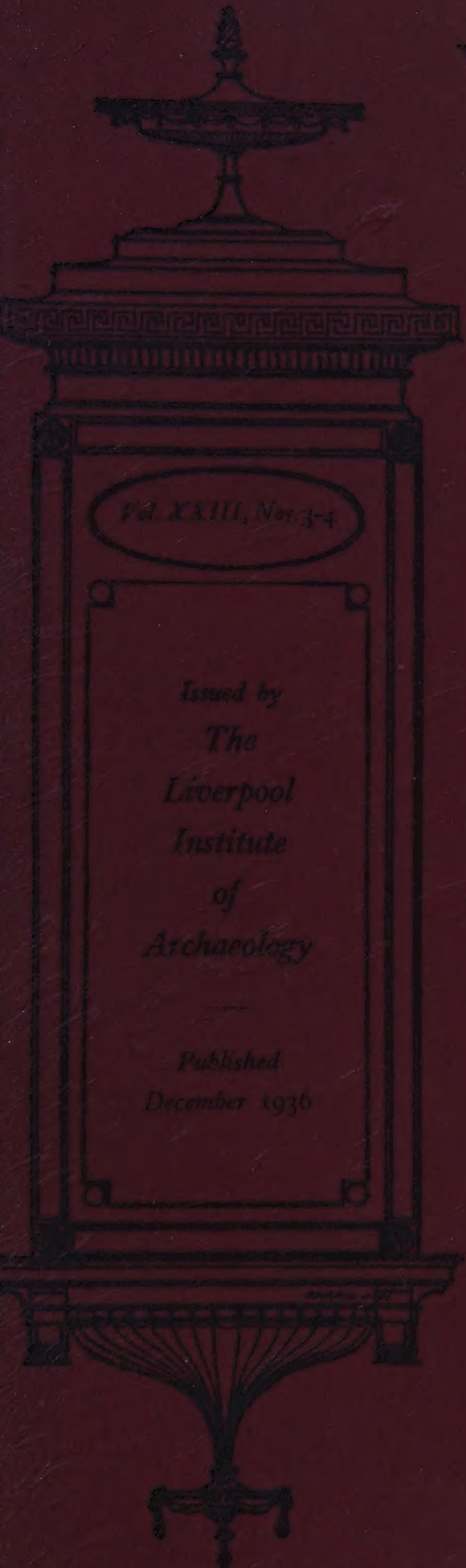

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